

THE JOURNAL
OF THE
ANTHROPOLOGICAL INSTITUTE
OF
GREAT BRITAIN AND IRELAND.

Nov. 6TH, 1871.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

The Minutes of the last Meeting were read, and confirmed.

The following new members were announced: The Rev. A. CLIFFORD BELL, M.A., Chaplain, St. Andrew's Church, Bangalore; J. W. BREEKS, Esq., Madras Civil Service, Commissioner of the Neilgherry Hills, Madras; EDWARD FORSTER BROEKMAN, Esq., M.R.C.S.Eng., L.R.C.P., Professor of Pathology, Medical College, and Resident Surgeon, General Hospital, Madras; EUGENE A. CONWELL, Esq., LL.D., M.R.I.A., Trim, Ireland; Captain DAVID HOPKINS, F.R.G.S., Her Britannic Majesty's Acting Consul, Fernando Po, Bonny River, West Africa; J. BRIDGES LEE, Esq., B.A., F.G.S., F.C.S., F.Z.S., etc., of Sydney Sussex College, Cambridge, and 63, Cornwall Road, Bayswater; the Rev. JAMES McCANN, D.D., 18, Shaftesbury Terrace, Glasgow; P. NATH. MOOKERGEE, Esq., L.R.C.P. Edin., Assistant-Surgeon, Madras Medical Service, Officer of Lock Hospitals, Madras; JOHN S. PHENÉ, Esq., F.G.S., etc., 5, Carlton Terrace, Oakley Street, S.W.; General MEREDITH REED, Consul-General of the United States of America at Paris, M.R.I.A.; FREDERICK MARTYN RICKARD, Esq., M.R.C.S.Eng., L.S.A., Assistant-Surgeon, Medical College, Madras.

MORTON ALLPORT, Esq., F.R.S., of Hobart Town, was elected Corresponding Member for Tasmania.

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From the ACADEMY.—Proceedings of the Academy of Natural Sciences of Philadelphia.

VOL. I.

T

- From the AUTHOR.—Smoking: when Injurious, when Innocuous, when Beneficial. By Dr. J. C. Murray.
- From F. W. RUDLER, Esq.—Catalogue of Specimens in the Museum of Practical Geology, illustrative of the Composition and Manufacture of British Pottery and Porcelain.
- From the SOCIETY.—Mittheilungen der Anthropologischen Gesellschaft in Wien, No. 10.
- From the SOCIETY.—Journal of the Asiatic Society of Bengal, part ii, No. 1. Proceedings do., Nos. 3, 4, and 5, 1871.
- From the ASSOCIATION.—Proceedings of the Geologists' Association for April 1871.
- From the SOCIETY.—Proceedings of the Society of Antiquaries of London, vol. v, No. 1.
- From the AUTHOR.—Lo Studio dell' Antropologia e dell' Etnologia in Italia, 1870. By G. A. Garbiglietti.
- From the ASSOCIATION.—Journal of the Royal Historical and Archaeological Association of Ireland, No. 6.
- From the INSTITUTION.—Journal of the Royal United Service Institution, vol. xv, Nos. 63 and 64.
- From the SOCIETY.—Journal of the Royal Geographical Society, vol. xl, 1870. Proceedings do., vol. xv, Nos. 2 and 3, 1871.
- From the IMPERIAL ACADEMY OF SCIENCES, VIENNA.—Sitzungsberichte Philos.-Histor. Classe—63 Band, Heft 1, 2, 3; 64 Band, Heft 1, 2, 3; 65 Band, Heft 1, 2, 3, 4; 66 Band, Heft 1. Math.-Naturw. Classe—1869, 1, 2 Abtheil, Heft 8, 9, 10; 1870, 1, 2 Abtheil, Heft 1; 1870, 1, 2 Abtheil, Heft 2-3, 4, 5, 6, 7, 8. Register, Heft 6. Almanach, 1870.
- From the GOVERNMENT OF INDIA.—Abstract of the Reports of Surveys and of other Geographical Operations in India, 1869-70.
- From the EDITOR.—The Food Journal, August and October 1871.
- From the SOCIETY.—Verhandlungen der k. k. Geologischen Reichsanstalt, Nos. 1 and 7, 1871; Jahrbuch do., Jan., Feb., March, April, May, and June, 1871; Zur Erinnerung an Wilhelm Haidinger, von F. R. v. Haner; Die Cephalopoden, Fauna der Oolithe von Balin Bei Krakau, by Dr. M. Neumayr; Die Reptilienfauna der Gosau-formation in der Neuen Welt Bie Wiener-neustadt, by Dr. Emanuel Bungel.
- From M. G. E. V. SCHNEEVOSGT.—Verslag over den staat der Geschiedten voor Krautezinnurgen in de Jaren 1864-5-6-7-8.
- From the ROYAL ACADEMY OF BELGIUM.—Mémoires couronnés et des savants étrangers (4to), toms 35, 36 et 38; Bulletins do., 2e série, toms 29, 30; Annuaire, do., 1871.
- From the AUTHOR.—Anthropométrie, ou Mesure des différentes Facultés de l'Homme, 1870. By Ad. Quetelet.
- From M. L. A. QUETELET.—Phénomènes Périodiques pendant l'année 1869.
- From the SOCIETY.—Proceedings of the Royal Society, No. 129.
- From the SOCIETY.—Proceedings of the Philosophical Society of Glasgow, 1870-1.

- From the ASSOCIATION.—Report of the British Association, Liverpool, 1870.
- From the AUTHOR.—The Hill Ranges of Southern India. Parts 2 and 3. By Dr. John Shortt.
- From the INSTITUTE.—Transactions and Proceedings of the New Zealand Institute. Vol. 3. 1870.
- From the INSTITUTION.—Report of the Smithsonian Institution, 1869. Smithsonian Contribution to Knowledge, vol. 17.
- From the BOARD.—Annual Report of the Indian Commissioners, 1870.
- From the ACADEMY.—Proceedings of the American Academy of Arts and Sciences.
- From the SOCIETY.—Memoirs of the Boston Society of Natural History, vol. 2, part 1. Proceedings do., sigs. 15-23.
- From the MUSEUM.—Bulletin of the Museum of Comparative Zoology at Harvard College, Cambridge, U.S. Vol. 2, Nos. 1, 2, 3.
- From the SOCIETY.—Proceedings of the American Philosophical Society, Nos. 83-85. Transactions do. (4to), part 1, 1870.
- From the INSTITUTE.—Proceedings of the Essex Institute, vol. 6, part 2. Bulletin do, vol. 2, 1870.
- From the ACADEMY.—Annual Report of the Peabody Academy of Science, 1869-70.
- From the EDITOR.—The American Census, 1869. By J. A. Garfield.
- From the DRESDEN ACADEMY.—Verhandlungen der Kaiserlichen Leopoldino Carolinischen Deutschen Akademie der Naturforscher. Vol. 37, 1870.
- From the EDITOR.—Journal des Savants, Juillet 1871. Paris.
- From the SOCIETY.—Proceedings of the Literary and Philosophical Society of Liverpool. Nos. 23 and 24.
- From the SOCIETY.—Bulletin de la Société d'Anthropologie de Paris, March to September 1870.
- From the INSTITUTE.—The Canadian Journal, August 1871.
- From Professor STEENSTRUP.—Oversigt over det Kongelige Danske Videnskabernes Selskabes. No. 3, 1870, and No. 1, 1871.
- From the AUTHOR.—An Essay on the Feudal Tenures. By Captain Bedford Pim, R.N.
- From SIR JOHN LUBBOCK, Bart., M.P.—Recherches sur l'Origine des Kabyles, 1871. L'Homme pendant les Ages de la Pierre dans les Environs de Dinant-sur-Meuse, by M. E. Dupont.
- From CHARLES DARWIN, Esq., M.A.—Darwinism: being an Examination of Mr. St. George Mivart's Genesis of Species. By C. Wright.
- From the AUTHOR.—Man, contemplated Physically, Morally, Intellectually, and Spiritually. No. 1. By J. W. Jackson, Esq.
- From the EDITOR.—American Eclectic Medical Review, Nos. 1, 2, and 3, 1870.
- From J. BURNS, Esq.—Human Nature, October 1871.
- From the EDITORS.—Matériaux pour l'Histoire Primitive et Naturelle de l'Homme, Nos. 7, 8, 9.
- From the EDITOR.—Journal of Psychological Medicine, vol. 5, No. 3.

- From the SOCIETY.—Transactions and Proceedings of the Royal Society of Victoria, vol. 9, part 2.
- From the AUTHOR.—Memoirs on Remains of Ancient Dwellings in Holyhead Islands. By the Hon. Wm. Owen Stanley, M.P.
- From the HON. COMMISSIONER OF PATENTS.—Report of the United States Patent Office for the year 1868, in 4 vols.
- From the GOVERNMENT OF INDIA.—Report on the Meteorology of the Punjab. By A. Neil, M.R.C.S.L.
- From the COMPANY.—Mortality Experience of the Prudential Assurance Company. By Henry Harben, Esq.

FOR THE MUSEUM.

Three Skulls of the Osyéba Tribe, from Banoko, West Africa, presented by R. B. N. Walker, Esq., Loc. Sec. Anth. Inst.

The DIRECTOR submitted the following Report:

REPORT on ANTHROPOLOGY at the MEETING of the BRITISH ASSOCIATION for the ADVANCEMENT of SCIENCE for 1871, at EDINBURGH.

1. THE Forty-first Meeting of the British Association was held at Edinburgh in August last. The General Committee assembled for the first time on Wednesday, August 2nd, when, after the election of officers of Sections, and the consideration of other questions not immediately affecting the interests of Anthropology, Dr. Richard King was called on to speak to his motion for the formation of a separate Sub-section of Anthropology. In so doing, Dr. King gave many strong reasons why such a course should be adopted; but it was ruled that, owing to the regulation of the Association which requires that all propositions affecting the constitution or fundamental rules of sections should be referred to the Committee of Recommendations, the motion could not be put to the meeting. It was, however, sent to the Committee of Recommendations for consideration. Before proceeding otherwise with this Report, it will be as well to show the result of this renewed effort to obtain a separate sub-section for our science.

2. As previously, Anthropology was at Edinburgh constituted a department of the Biological Section; and, as soon as it was properly formed, the members of the Anthropological Subcommittee discussed the probable fate of Dr. King's motion. Finally, it was determined to obtain, if possible, the countenance of the Committee of the Biological Section to such a proposal as, it was thought, might be made with a reasonable prospect of its being accepted. For this end, Professor Turner, the President of the Anthropological Department, at a meeting of the Committee of the Biological Section, moved, and Dr. Beddoe se-

conded, a resolution recommending—"That, in future, the division of the Section of Biology into three departments of Anatomy and Physiology, Anthropology, and Zoology and Botany, shall be recognised in the programme of the Association meetings; that the president, two vice-presidents, and at least three secretaries, shall be appointed; and that the vice-presidents and secretaries, who shall take charge of the organisation of the several departments, shall be designated respectively before the publication of each programme." This resolution was unanimously accepted by the Committee of the Biological Section, and at once forwarded to the Committee of Recommendations. What took place at this Committee cannot, of course, be known; but they finally reported that they could not recommend the adoption of Dr. King's motion, on the ground that, logically, it would be impossible to separate Anthropology from Biology, but that they strongly recommended that the resolution passed by the Biological Committee should be acted on. This report was itself unanimously adopted by the General Committee; the result of this decision being that, although Anthropology is still associated with Anatomy, Physiology, Zoology, and Botany, as simple departments of a section, yet it is now permanently constituted a separate department, and the special appointment of officers for it, which will take place in future, leaves little, practically, to be desired. Probably the union of the two old societies had some influence in bringing about this result.

3. The Department of Anthropology, under the able presidency of Professor W. Turner, one of the Corresponding Members of the Institute, held six meetings, at which the following papers were read:

GENERAL ANTHROPOLOGY.

1. Address by Professor W. Turner.
2. The Comparative Longevity of Animals of different Species and of Man, and the probable Causes which mainly conduce to promote this Difference. By George Harris, F.S.A.
3. The Hereditary Transmission of Endowments and Qualities of different kinds. By George Harris, F.S.A.
4. On Degeneration of Race in Britain. By J. Beddoe, M.D.
5. Man and the Ape. By C. Staniland Wake, Dir. A.I.
6. On Centenarian Longevity. By Sir Duncan Gibb, Bart., M.D.
7. Note on the Fat Woman now exhibiting in London. By Sir Duncan Gibb, Bart., M.D.
8. The Anthropology of Auguste Comte. By J. Kaines, M.A.I.
9. The Atlantean Race of Western Europe. By J. W. Jackson, M.A.I.
10. On Skulls presenting Sagittal Synostosis. By Prof. Struthers.

11. On an Expedition for the Spécial Investigation of the Hebrides and West Highlands, in search for Evidences of Ancient Serpent Worship. By John S. Phené, F.G.S.

12. The Origin of the Moral Sense. By Dr. James McCann.

ETHNOLOGY.

13. Le Sette Comuni. By Dr. Charnock, F.S.A.

14. The Physical and Philological Characteristics of the Wallons. By Dr. Charnock and Dr. C. Carter Blake.

15. The Lapps. By Dr. Richard King.

16. A Glean of the Saxon in the Weald. By Walter C. Dendy, M.A.I.

17. On the Inhabitants of the Merse. By J. Beddoe, M.D.

18. On certain points concerning the Origin and Relations of the Basque Race. By the Rev. W. Webster; read, supplemented, and illustrated, by P. W. Stuart Menteath, Membre de la Société Ramond.

PREHISTORIC ARCHÆOLOGY.

19. On the Order of Succession of the several Stone Implement Periods in England. By J. W. Flower, F.G.S.

20. On the Classification of the Palæolithic Age by means of the Mammalia. By W. Boyd Dawkins, M.A., F.R.S.

21. Antiquity of the Domestic Animals. By W. Boyd Dawkins, M.A., F.R.S.

22. Some Indications of the Manners and Customs of the Early Inhabitants of Britain, deduced from the Remains of their Towns and Villages. By John S. Phené, F.G.S.

23. On Human and Animal Bones and Flints from a Cave at Oban, Argyllshire. By Professor W. Turner, C.M.A.I.

24. On Implements found in King Arthur's Cave, near Whitchurch. By Rev. W. S. Symonds, M.A., F.G.S.

25. On Bones and Flints found in the Caves at Mentone, and in the adjacent Railway Cutting. By M. Moggridge.

26. Discovery of Flint Implements in Egypt, at Mount Sinai, at Galgala, and in Joshua's Tomb. By l'Abbé Richard.

27. On Megalithic Circles. By Lieut.-Col. Forbes Leslie.

28. Ancient Hieroglyphic Sculptures. By Lieut.-Col. Forbes Leslie.

29. On an Inscribed Stone at Newhaggard, in the County of Meath. By Eugene A. Conwell, LL.D.

30. Ancient Modes of Sepulture in the Orkneys. By George Petrie.

31. Note on a Cross traced upon a Hill at Cringletie, near Peebles. By James Wolfe Murray.

32. Is the first Stone Age of Lyell and Lubbock as yet at all proven? Is it anything beyond a myth? By W. D. Michell.

4. It is impossible, within the limits of this Report, to give even an abstract of the contents of each of these papers. It is hoped, however, that many of them will be brought before the Anthropological Institute during the present session. All the

papers were of interest, and some of them were of considerable value. Those relating to the archæological division of anthropology created considerable discussion, more especially that by Mr. Flower, on "The Order of Succession of the several Stone Implement Periods in England", which need not, however, be further referred to, as it will be read before the Institute at an early meeting. The question of the antiquity of man was also raised by the papers of Professor W. Turner, Mr. Moggridge, and the Rev. W. S. Symonds. The investigations of Mr. Symonds are the most instructive, as they lead to the conclusion that man was living in ancient Herefordshire when the waters of the Wye flowed at an altitude of three hundred feet above their present level. Mr. Boyd Dawkins's paper on "The Classification of the Palæolithic Age, by means of the Mammalia", was a criticism of M. Lartet's classification of that period by reference to the associated mammalia, which the author declared cannot be sustained. The two papers read by Lieut.-Colonel Forbes Leslie are worthy of notice. That on "Megalithic Circles" was designed to prove that the larger circles were intended for religious purposes. By the other, Col. Leslie endeavoured to establish that the ancient hieroglyphic sculptures of Scotland were symbols of religious ideas, and that they belonged to two distinct types—the earlier the work of a race that was expelled or subjugated by the Kelts, to whom the later type of sculptures may confidently be assigned.

Among the ethnological papers may be mentioned Dr. Beddoe's account of "The Inhabitants of the Merse", a border district lying along the course of the Tweed. These people are of the Teutonic type, large fair men, with a predominance of light hair, and with heads, somewhat dolichocephalic, of a large size. Dr. Richard King's paper on "The Lapps" gave many particulars of the customs of this race, describing them as being taller than is usually supposed. An interesting sketch of Saxon life and manners was furnished by Mr. Dendy's paper, entitled "A Glean of the Saxon in the Weald". The joint memoir of Dr. Charnock and Dr. C. Carter Blake, on "The Wallons", deserved a fuller discussion than it received. It described their physical and philological characteristics, showing their Keltic origin. Dr. Charnock has, moreover, done good service in calling attention, in his "*Le Sette Comuni*", to the little known German communities in North Italy. The most important ethnological memoir, so far at least as its subject is concerned, was undoubtedly that of the Rev. W. Webster, read and supplemented by Mr. Stuart Menteath, on "The Basques". The paper had for its object to show that this people, instead of being darker, are really lighter than any of the peoples around them, the dark Basques

of the coast presenting great admixture of Moresco, or Gipsy, blood. It should be stated, that Mr. Stuart Menteth has presented to the Institute a photograph of a typical Basque, and also a photographic portrait of a Gipsy woman.

Of the remaining papers read in the Anthropological Department, those by Dr. Beddoe, on "The Degeneration of Race in Britain"; by Mr. Harris, on "The Hereditary Transmission of Endowments and Qualities", and on "The Comparative Longevity of Animals and of Man"; and that by Sir Duncan Gibb, on "Centenarian Longevity"—related to somewhat allied subjects. Mr. Harris, in his first named paper, advanced the idea that the human constitution is subject to a sort of flux and reflux, by virtue of which "a particular moral or mental endowment may be growing for generations until it reaches its climax, when it will at once decline." Dr. Beddoe's paper, owing to its practical bearing on our national welfare, was the most important of this series. The author believes that the greater part of the agencies now operating on the physical endowments of the population of Britain tend towards deterioration rather than improvement. Mr. J. W. Jackson's memoir on "The Atlantean Race of Western Europe" supposes that the Turanian element is common to both the Melanic and the Xanthous varieties of man in Western Europe, and that their admixture will furnish the race of the future. The utilitarian view of the origin of the moral sense was severely criticised by Dr. James McCann, in his paper on the origin of that faculty; but little light was thrown by it on this difficult subject. The most lively debates in the Anthropological Department took place on Mr. Wake's paper, entitled "Man and the Ape", and on that by Mr. Kaines, treating of "The Anthropology of Auguste Comte". The former, while admitting that man was derived from a lower animal form, endeavoured to show that it must have been under conditions very different from those supposed by Mr. Darwin's hypothesis. Mr. Kaines' paper had for its aim to establish that the differences which exist between man and animals are of degree and not of kind; and that man's dominion over the animal world is now moral rather than intellectual. Mr. Phené, in an interesting memoir on "Serpent Worship", described certain mounds in Scotland which he has investigated, and which he asserts to closely correspond with the animal mounds of Ohio. One of the most valuable papers read was that by Professor Struthers, on "Sagittal Synostosis of the Skull", illustrated by several crania exhibiting this phenomenon, and showing how great an influence it has over the form of the skull.

5. The meetings of the Anthropological Department were, as usual, well attended. On several occasions, many persons were

not able to find accommodation ; but, finally, the Lecture Hall of the Museum of Science and Art was kindly placed by Prof. Archer at the disposal of the Council of the Association for the use of the Department.

6. At the last meeting of the General Committee of the Association, certain resolutions were adopted, having for their object the formation of organising sectional committees, "for the purpose of obtaining information upon the memoirs and reports likely to be submitted to the sections, and of preparing reports thereon, and in the order in which it is desirable that they should be read, to be presented to the committees of the sections at their first meeting." Under the regulation already referred to, officers will be specially nominated by the Council for the Department of Anthropology, which will, therefore, have its own organising committee. In connection with this subject, attention should be drawn to the circular "Notice to Contributors of Memoirs", which is appended to the new regulations, and of which the following is a copy :

"NOTICE TO CONTRIBUTORS OF MEMOIRS.—Authors are reminded, under an arrangement dating from 1871, that the acceptance of Memoirs, and the days on which they are to be read, are now to a great extent determined by Organising Committees for the several Sections *before the beginning of the Meeting*. It has, therefore, become necessary, in order to give an opportunity to the Committee of doing justice to the several Communications, that each author should prepare an abstract of his Memoir, of a length suitable for insertion in the published Transactions of the Association, and that he should send it, together with the original Memoir, by book-post, on or before addressed thus: 'General Secretaries, British Association, 22, Albemarle Street, London. For Section'. If it should be inconvenient to the author that his paper should be read on any particular days, he is requested to send information thereof to the Secretaries in a separate note."

7. It is advisable again to call the attention of the members of the Institute to the regulations passed at the Liverpool meeting of the Association (1870), as to the constitution of the General Committee. The members of this Committee are now divided into two classes—permanent and temporary. The latter includes "presidents for the time being of any scientific societies publishing Transactions, or, in his absence, a delegate representing him." The former class comprises, among others, members of the Association "who, by the publication of works or papers, have furthered the advancement of those objects which are taken into consideration at the sectional meetings of the Association." Persons qualified under this rule are required to send in their claims for the decision of the Council of the Association at least *one month* before the meeting of the Association.

8. The Committee of the Anthropological Department discussed the desirability of asking the Council of the Association for a grant towards the furtherance of some scientific object. It was finally decided to let the matter stand over for further consideration.

9. The President of the Institute was, unfortunately, prevented from attending the meeting of the Association; but the Institute was represented by Professor Huxley and Mr. Harris, two of the Vice-Presidents; by the Treasurer, Mr. Flower; and the Director; and by Dr. Beddoe, Mr. Bohn, Dr. Campbell, Mr. Boyd Dawkins, Mr. Dunn, Colonel Lane Fox, Sir Duncan Gibb, Mr. Kaines, and Dr. King, Members of the Council.

10. The 1872 meeting of the Association is to be held at Brighton, under the presidency of William B. Carpenter, M.D., F.R.S.

C. STANILAND WAKE, *Director*.

The following paper was read:

On the RELATIVE AGES of the STONE IMPLEMENT PERIODS in ENGLAND. By J. W. FLOWER, Esq., F.G.S., Treasurer Anth. Inst.

It is barely twelve years since M. Boucher de Perthes' discoveries of flint implements in the Drift of the Somme Valley were first recognised and verified by Mr. Prestwich, and happily correlated by him and by Mr. Evans with some forgotten discoveries of older date in England. Since then similar researches have been so numerous and so ably conducted, that we are perhaps enabled to form a clearer view than was possible in the first instance, as to the relations and order of succession of the various Stone implement periods in England.

Hitherto what are known as the Drift implements have been usually placed by the most eminent writers on these subjects in the same category, and regarded as of substantially the same age, as those of the Bone caves. Thus, Sir John Lubbock says, that it would appear that prehistoric archaeology may be divided into four great epochs, of which he says, "The first is the Drift, when men shared the possession of Europe with the mammoth, the cave bear, the woolly-haired rhinoceros, and other extinct animals"—this, he says, we may call the Palæolithic period; "second, the later, or polished stone age, a period characterised by beautiful weapons and instruments made of flint and other kinds of stone—this we may call the Neolithic period"; and he then goes on to describe what are termed the Bronze and Iron

periods;* and Sir Charles Lyell, in his work on the "Antiquity of Man", while he divides Sir John Lubbock's two stone periods by a vast interval of time, calling them respectively post-pleiocene and recent, makes no marked distinction, either as regards date or other conditions, between the Cave and the Drift periods. Having regard, however, to the present state of our knowledge, it appears to me that this arrangement is hardly sufficient, so far as it relates to England, inasmuch as it places in one group deposits characterised by very different conditions, and probably assignable to distinct epochs.

The grounds upon which I desire to rest this proposition as regards the Drift period may be thus stated, viz., *Archæological*—the difference in character of the implements from all others, and the absence of those products of human skill which are associated with implements of (presumably) later date; *Geological*—the very great differences in the geological conditions under which they are found; and—*Palæontological*—their association with some animal remains which have never yet been found, and the absence of remains which commonly are found, with other stone implements.

The palæontological evidence, being chiefly negative, is necessarily so incomplete and unsatisfactory, that we might well pause before founding any proposition upon it; but if we find that, such as it is, it is confirmed by geological and archæological considerations, we need hardly hesitate to modify the arrangement hitherto adopted, by separating this Drift period by a wide interval from all others, and giving it some more distinctive name than it has yet received.

As regards the archæological, or what may, perhaps, be more properly called the technological, ground, my contention is, that the implements of the Drift are, as a class, different, as well from those of the Bone caves, as from those of later date found in the tumuli; and, in order to show this, I have laid on the table a series collected indifferently from the Somme and the Little Ouse, showing fifteen or sixteen distinct types, and several examples of each, only two or three of which, so far as I have been able to learn, have been found in the Bone caves; a coincidence not at all to be wondered at, when we consider the nature of the stone, and the paucity of the forms into which it can be usefully worked.

If we conclude that the Drift implements are of a different period from the others, it still remains to consider whether they were earlier or later. The palæontological and geological evidence as to this will be presently noticed; but, as regards the technological evidence, I cannot doubt that they were earlier,

* "Prehistoric Times", 2nd edition, p. 2.

notwithstanding the material circumstance that they present a greater variety of form, indicating a greater variety of uses to which they could be put; but the presumption thus arising, that these objects represent a people of a later age, is, I think, rebutted, not only by a consideration of the other conditions already alluded to, but notably by the fact, that there are several other works of art which the caves present, of which no trace has been found in the Drift deposits; the presence of these indicates some advance in the arts of life, and confirms us in the opinion, formed upon other considerations, that the periods in question must have been separated by a considerable interval of time. Of course, I shall not be understood as contending that those Cave objects may not yet be discovered in the Drift; all that I would suggest is, that they have never yet been seen, notwithstanding that for several years diligent search has been made for them, by many persons, in many places.

It is a significant feature in the history of the Drift implements, that they were wrought from stones which had long lain upon the surface, exposed to atmospheric influences. In many instances, they are found partly enveloped in their original chalk crust, usually much worn and battered. Beneath this is often found a discoloration, sometimes to the depth of a quarter of an inch, which is never seen on flints found *in situ*, or newly dug, and which is, undoubtedly, the result of long exposure to the atmosphere; in addition to these two colours, we find occasionally the *patina* of the uncovered surfaces of the stone before the implement was made, and which were not removed in making; also the *patina* exhibited by those surfaces from which fragments of stone were struck in order to shape the implement; and, if we include the original colour of the flint, which is only seen when the stone is broken, we have no less than five distinct tints; and, trivial as this circumstance may appear, each of these marks a distinct epoch in the stone's history, and, to some extent, in the history of the earth and its earliest inhabitants.

Another proof that some of these implements were formed from stones previously lying upon the surface, may be found in the circumstance that they had been previously fractured by means of what is sometimes called internal expansion. This fracture is never found in flints imbedded in the chalk rock; but when lying on the surface, the stone frequently breaks—probably when subjected to some concussion,—into two or more pieces—the fracture taking place usually in the plane of some fossil inclosed in the flint, sometimes no larger than a fish scale.

The questions which arise upon the geological view of the subject can hardly fail to have a most important bearing upon the anthropological, and therefore I find myself obliged to deal with

them in detail, and at some length. If we find good reason for believing that the beds of gravel in which the implements now lie, and from which in all probability they were formed, as well as the considerable masses of gravels and sands which usually overlie them, were transported by agencies no longer in operation; that is to say,—by rivers, or water of whose course no trace remains—flowing from mountains or high lands which have altogether disappeared; and further, that this took place while England formed part of the continent of Europe, we are carried back to a period incalculably remote, and the appearance of men upon the earth may be conjectured to have occurred many thousand years beyond the date usually assigned. We must believe that the makers of these things lived not merely before *the Flood*, but before many, and great floods.

When found, in what I believe should be regarded as their normal or original position, the implements are never seen upon the upper surface, but in that bed of coarse flint gravel which rests upon, or very close to, the surface of the oolite or chalk, or whatever rock happens to be uppermost, no distinct traces of river action, so far as my observation extends, being found *below* them. They are usually covered by a thick bed of compact gravel, often largely mingled with chalk pebbles, and this again is usually capped by considerable masses of sand or loess, the gravel and the loess together often amounting to twenty, and occasionally even thirty feet in thickness. This position of the implements, as Sir Charles Lyell has observed in his description of the Somme Valley, leaves no doubt in the mind of the geologist that their fabrication *preceded* all the reiterated degradation which resulted in the formation of the overlying beds. This feature in the history of these deposits has been observed by several other writers, but the important inferences to be drawn from it seem to have been but little considered.

From the preceding details it will be seen, *first*, that the implements must have been made *before* the beds which now overlie them had been deposited; and *next*, from their composition and character, it is obvious that these overlying beds, as well as the gravels in which the implements occur, must have been water-borne; and, if so, by what kind of water?

It has been hitherto supposed, and indeed it is still supposed by many able writers, that these gravels were transported by existing rivers, by which I mean, waters flowing in or near to present river channels. This opinion, which has been expressed by Sir John Lubbock, in his preface to the translation of Professor Nilsson's work on the "Primitive Inhabitants of Scandinavia," is in conformity with that expressed by Mr. Prestwich in his able paper read before the Royal Society in 1862, in which he attri-

butes the deposit to the time "when our valleys and plains began to receive their inequality levelling deposits of silt and peat, and the modern order of things commenced."

Notwithstanding the weight due to the opinion of this eminent author, it seems to me, so far as the evidence goes (and much additional evidence has been procured since Mr. Prestwich's paper was written), that if we assume, as we may safely do, that no geological changes have occurred since our rivers assumed their present courses, except such as may have resulted from subaerial denudation, and that thus the *relative* levels of the land and rivers and seas have remained the same, it is impossible to attribute the position either of the implement-bearing gravels, or others in which no implements have yet been seen, to the action of existing rivers.

Undoubtedly, the implements are frequently found in, or under, masses of gravel in the vicinity of rivers, but it by no means follows that their transport is to be ascribed to those rivers; their position certainly raises such a presumption, but, nevertheless, it is quite possible, and indeed probable, that the gravel may have preceded the valley, and that both the valley and the gravel may be of older date than the river which now flows through them; it is incredible that, when the present surfaces first became dry land, they should have presented a dead level.*

The orology of a country must always determine its fluvial conditions—the course as well as the volume of river waters must depend upon the position and height of the hills or table-lands from which they flow, and the contours of the districts through which they pass, and, having regard to these considerations, it will be found that implement bearing gravels have now been discovered at heights, and in positions, to which no existing river could have conveyed them. Thus Mr. Evans has described the recent discovery of several implements of the genuine Drift type at Southampton, under five to six feet of flint gravel, two of them at a spot eighty-six feet above high water, and a mile from the river which falls into the Southampton Water at a short distance; and one at a spot more inland, and one hundred and fifty feet above the sea. These instances furnish a strong argument in favour of my proposition. The Itchen must have fallen into the sea long before it could have attained to the height of these gravels, nor indeed would the existing water-shed have furnished a volume of water sufficient to carry the stream to such a height.

Drift gravel and an oval flint implement have also been found

* See on this subject, some very valuable observations in Mr. Godwin-Austen's memoirs on Land Surfaces beneath the Drift, in the "Quarterly Journal of the Geological Society", vol. xi, p. 118, and on Tertiary Deposits on the Sussex Coast, vol. xiii, p. 34.

by Mr. Codrington on the Foreland Cliffs, on the eastern extremity of the Isle of Wight, eighty-five feet above the mean sea-level, and far from any present river, or traces of any ancient river; as Mr. Evans has pointed out, this shows that the country was inhabited before the Isle of Wight was separated from the main land. Many other instances occur of gravel, and implements also, being found at such heights as could not be reached by any river now flowing.*

At Reculver, they come from a small patch of flint gravel on a cliff directly overhanging the sea, about one hundred feet above it, while at Brandon and Lakenheath, in the little Ouse Valley, they are found under similar gravels more than ninety feet above the river, considerably above its source, and more than seventy feet above high water mark at Lynn. At Brandon they are a mile, and at Lakenheath three miles, distant from the river. What is now the river here was most probably an arm of the sea until long after these gravels were deposited; and we know that as late as the year 1600 the tide flowed to the foot of the hill at Brandon, on which the deposit is found.†

It is also a remarkable and significant circumstance, that at these places the deposit of flint implements undulates, so to speak; at Thetford they are twenty feet above the river; at Santon Downham, two miles lower down, forty feet; at Broomhill, three miles lower still, nearly level with it; at Brandon, a mile lower down, ninety feet *above* it, and at Shrub Hill, six miles below Brandon, they are about level with the water. This circumstance seems to militate against the theory of river transport, for if the implements had been carried by the stream they would have followed its course, and those nearest to the source would have been at a higher level than those lower down, whereas the reverse is the case.

At St. Acheul, the gravel is found at the height of from eighty to a hundred and fifty feet above the present water level of the valleys, while along the Somme it is seen at some places at the height of two hundred feet; and when I visited the place, in 1859, with Mr. Prestwich, we were both struck with the absence of any high lands from which the gravels could have been brought, a fact to which I called the attention of the Geological Society, in a paper read before it in June 1859.

At Bethune, in Artois, a very interesting deposit is met with,

* Since this paper was read, Mr. Prestwich has communicated to the Geological Society the finding by himself of a well-formed implement of the Drift type, in a gravel pit at Downton, Wilts, a hundred and fifty feet above the Avon, and a mile and a quarter from it, the gravel being destitute of shells.

† "Quarterly Journal of Geological Society" for 1869. Vol. xxv, p. 449.

for the discovery of which we are indebted to Mr. John Evans; it is situate on some table-land lying nearly equidistant between two small streams and about a mile and a half from each, and a hundred and fifty feet above the sea level, and similar deposits at a considerable distance from any river have now been observed in other localities.

In addition, it is to be borne in mind that the highest hills—those, in fact, that form the summits of the water-sheds in Kent, Essex, Herts, Norfolk, and Surrey—are often found capped by Drift gravels of the same character, as those in which implements have been found; in these cases the absence of implements may reasonably be attributed to the circumstance, that in none of them does the gravel contain stones of sufficient size and quality to allow of their being used for the purpose.

Similar deposits are abundantly found in France. Thus, Sir Charles Lyell, in the "Geological Evidences of the Antiquity of Man", observes "that the general surface of the upland region of the valley of the Somme is covered for miles in every direction by loam or brick earth, about five feet thick, devoid of fossils; and that to the wide extent of this loam the soil of Picardy chiefly owes its great fertility." It is clear that the Somme could not have deposited the loess which now overspreads this extensive province; and it may also be noticed, that this river is posterior in date to the peat beds of later date than the gravel, which were once continuous throughout the valley, and have since been cut through by the river.

For these reasons, then, it would seem that the proposition that these gravels were transported by means of rivers which then ran in the same direction, and drained the same areas as now, can hardly be maintained, since it involves the assumption that those rivers then ran, in some cases, more than a hundred feet above their present level, and several miles from their present course; but this could not have happened, inasmuch as there is no water-shed or catchment basin that could have supplied such a volume of water as would in many, indeed in most, cases have been required; and in several localities the hills are so situate, that before the waters could have attained to the requisite height, they must have overflowed the plains and valleys lying beneath, and have formed a great lake as in the Fen district near Brandon, or they would have found their way to the sea as at Southampton and Reculver. In either case the power of transport to the required height would have been lost.

It may be said, as indeed it has been said, that the high lands, from which it is assumed that these rivers once descended, have been worn away by subaerial denudation, and that thus we find no traces of the ancient source and course of the rivers.

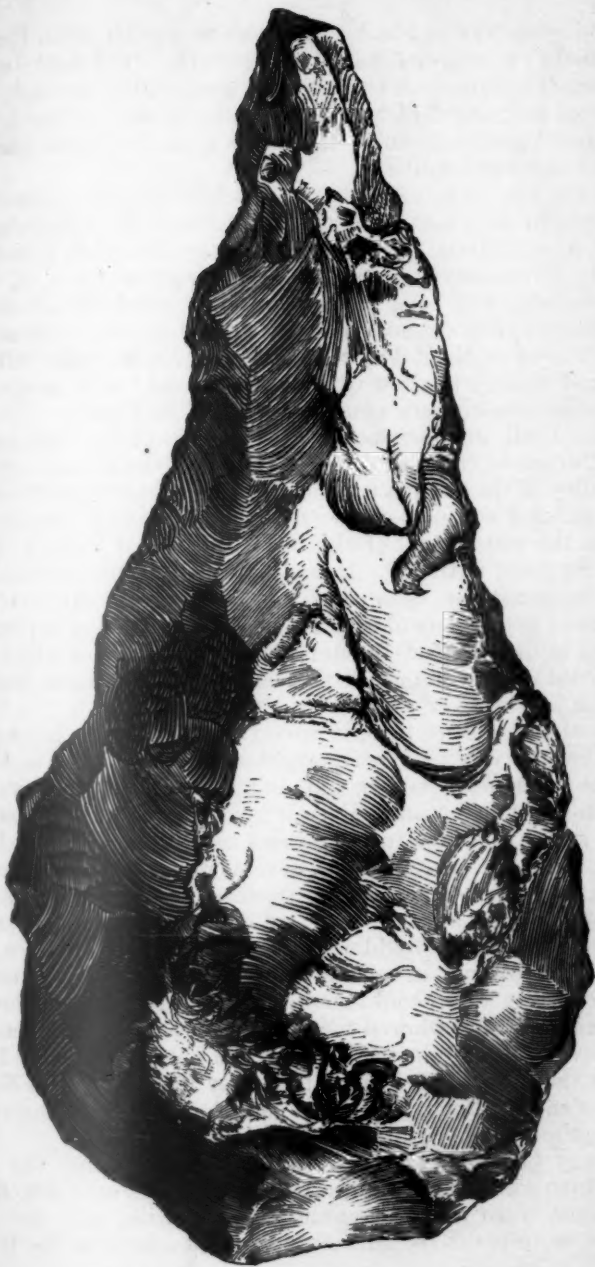
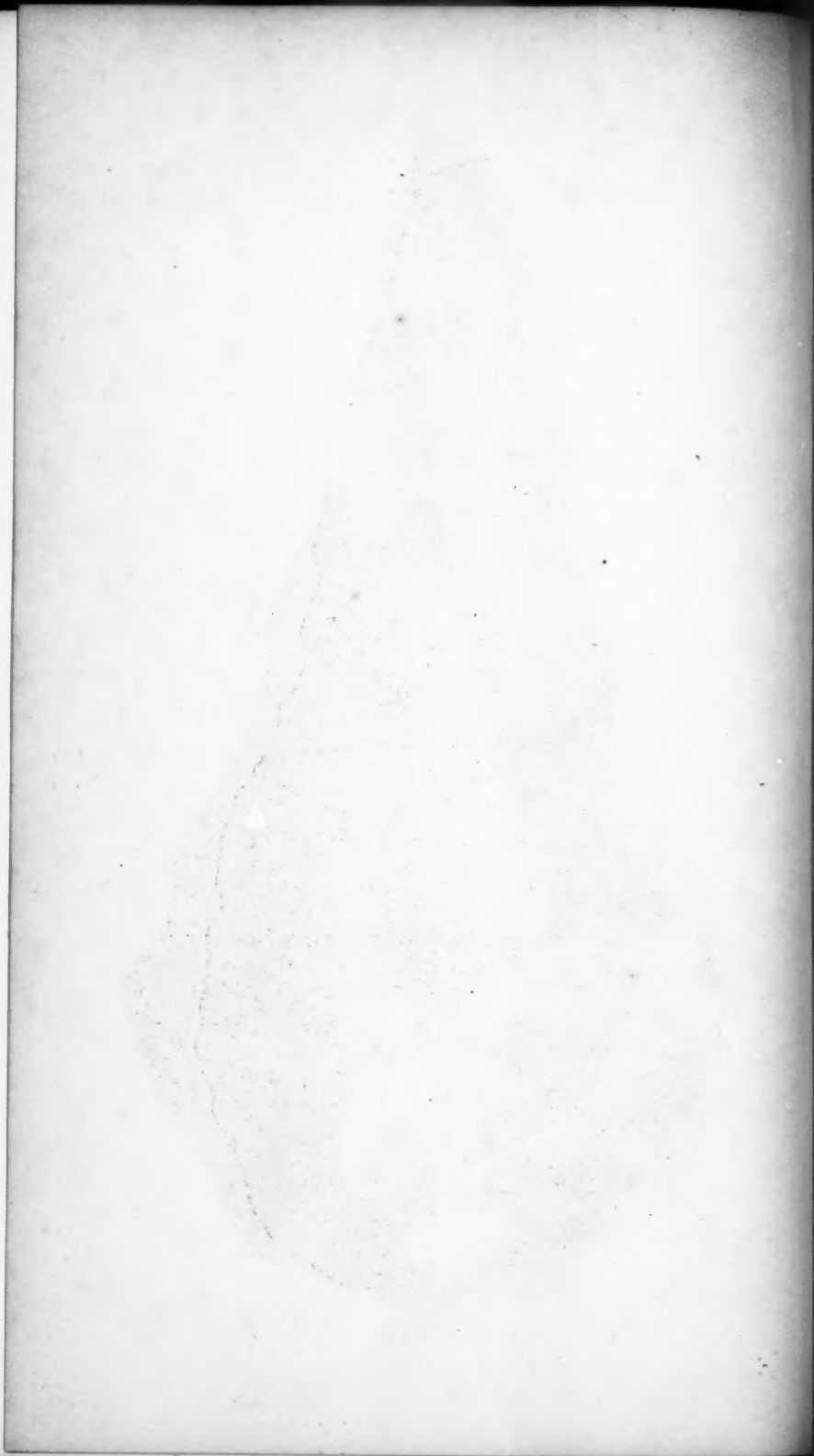


Fig. 1.—FLINT INSTRUMENT FROM ST. ACHEUL.



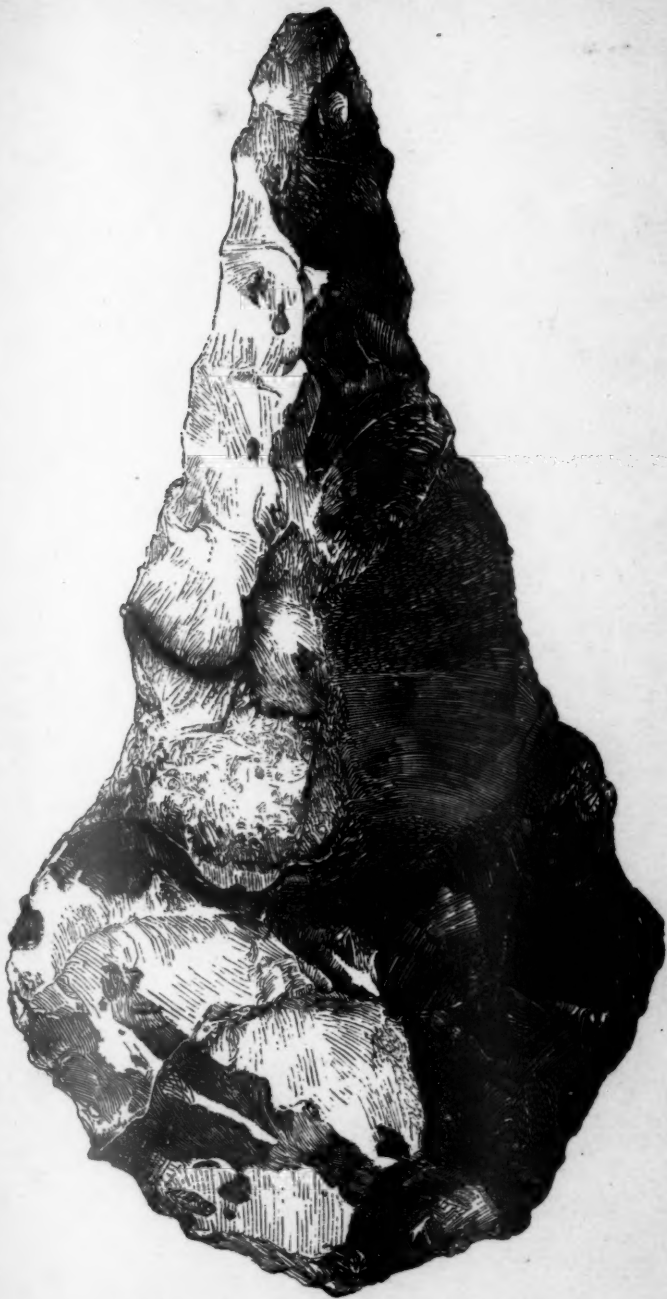


Fig. 2.—FLINT IMPLEMENT FROM THETFORD.



Fig. 3.—FLINT INSTRUMENT FROM ST. ACHEUL.

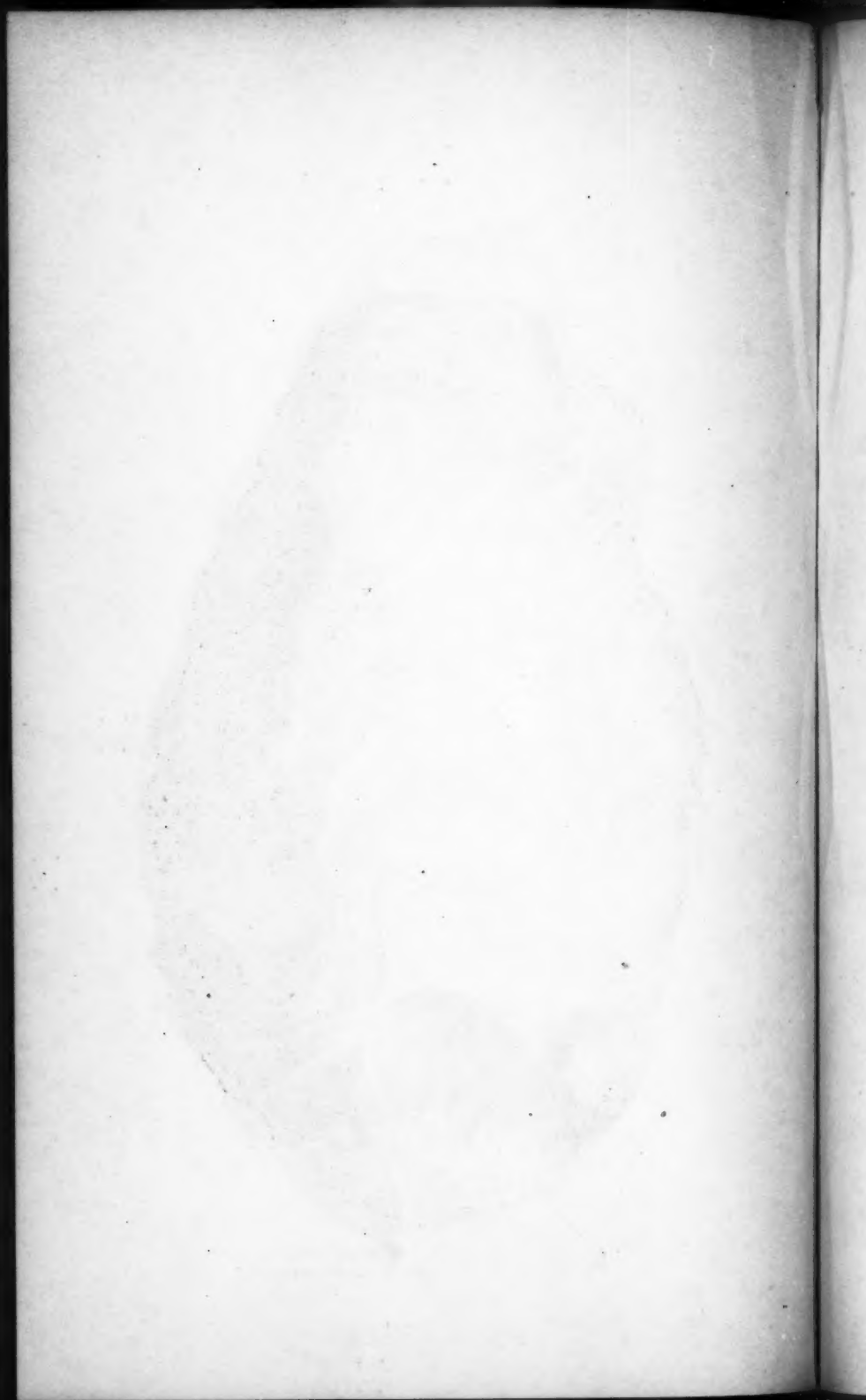
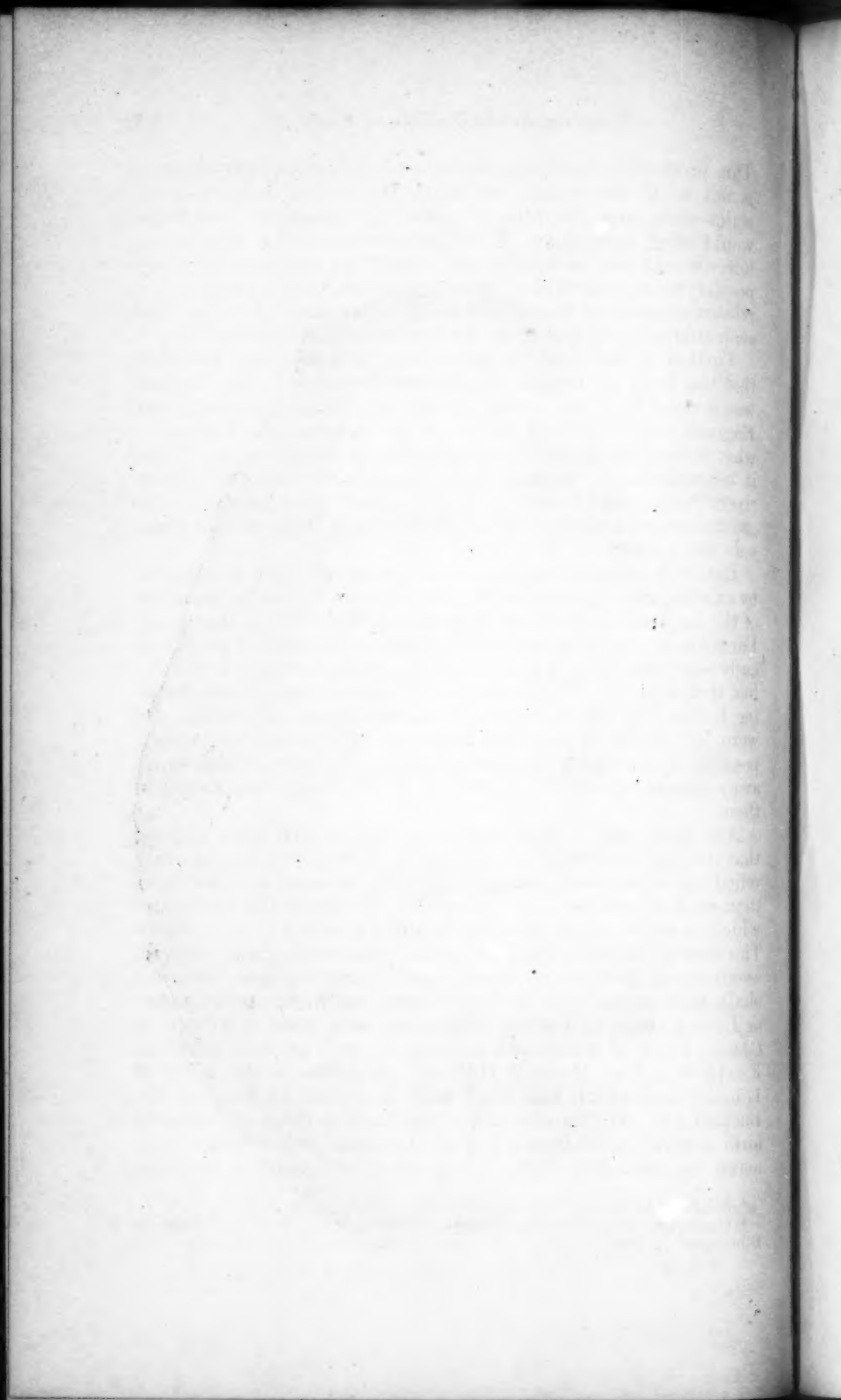




Fig. 4.—FLINT IMPL. MENT FROM THETFORD.



This proposition, however, seems to me fallacious; the question is not as to the *actual* but as to the *relative* heights of the water-sheds and the hills in question. Subaerial denudation would affect both alike. If the loftiest eminences suffered, the lower would not be spared, and thus, if no present river could possibly have formed these deposits, we must believe, assuming the *relative* contours of the surface to have remained the same, that such submergence was from the first equally impossible.

Further, if we should be satisfied, as it seems most probable, that the Drift implement gravels were deposited before England was severed from the continent, and while, as has been supposed, England extended much farther to the east, and the Thames, or what is now the Thames, was probably an affluent of the Rhine, it becomes in the highest degree improbable that the present rivers Somme and Ouse should, so to speak, have survived these great changes, and continued still to occupy their ancient channels and courses.

But, if it is thus improbable that the gravels were transported by existing rivers, it seems still more improbable that the transport of the implements found in them should be ascribed to that cause. For reasons already stated, and for some others which it would occupy too much time to give in detail, I incline strongly to the belief, that they were for the most part manufactured by men resorting to the beds which were then exposed upon the surface, and were left where we now find them, and afterwards covered up, possibly by the same changes, whatever they were, which drove away the occupants of the soil, or, it may have been, destroyed them.

And here I may notice, that those authors who have insisted that these gravels were transported by river agency, have mainly relied upon the assumption that the valleys contain no other rocks than such as are found in the upward courses of the rivers, and which, in their descent, have followed the course of those valleys.* The case of Brandon, however, seems conclusive against such an assumption. Here the implements occur under compact masses of chalk flint, mixed with pebbles of quartzite, white quartz, jasper or Lydian stone, and other rocks, composing what is known as Glacial Drift, of which considerable deposits are also found at Finchley, and at Muswell Hill, and elsewhere to the north of London, and which has been fully described by the late Dr. Buckland.† At Brandon these quartzite pebbles occasionally form a layer more than a foot in thickness, and in some spots make up one-half of the whole mass of gravel. Professor

* Sir John Lubbock, "Prehistoric Times", 2nd edit., p. 358.

† Geological Society's Transactions, 1st series, vol. v. p. 516. "Reliquiæ Diluvianæ", p. 249.

Ramsay has shown that they are derived from a Permian conglomerate of the New Red Sandstone of Shropshire and Warwickshire,* which, at the nearest point, is two hundred miles west of Brandon. But, whatever their origin, it is certain that neither to the east of Brandon, nor, indeed, elsewhere in the county, is there, or ever was, any formation from which these gravels could have been derived; and, as the river here runs east to west, it is impossible that it should have carried them. Indeed, in the present configuration of the land, no river flowing from the west could have deposited this gravel, inasmuch as, before reaching this eminence, it must have been intercepted and lost in the estuary which is now represented by the great level of the fens. So late as the Anglo-Saxon period, this district was an archipelago, as is shown by the names of the towns and villages—as *Manea*, *Stonea*, *Whittlesea*, *Hilgay*, etc.—indicating islands—and what are now rivers flowing into it, were then, as now, known as *creeks*.

Before leaving this part of the subject, I must notice some phenomena which seem to be in conflict with the views here stated. In some few instances, land and fresh water shells are found in or near to the implement bearing gravel. At Salisbury, St. Acheul, and Menchecourt, they lie above the gravel; at Bedford in it; while at Brandon, Bethune, and many other places, no trace whatever is found of them. In no case, however, I believe, are they found lying undisturbedly beneath gravels which contain flint implements. This circumstance certainly suggests the belief, that the gravels, and the implements with them, may have been carried down by river action; but, even in that case, not necessarily by rivers draining the same areas, and following the same courses as now. On the other hand, it is certain that the implements could not have been made under water: and, from their occurrence in such great quantities, and that in those spots where the stone is well adapted for making them, their presence can hardly be regarded as accidental; while, from the perfect condition of many of them, it is certain that they cannot have been carried far, if at all. The occasional occurrence of shells above them may perhaps be accounted for, by supposing, that, in the long interval that has undoubtedly passed, pools or streams of fresh water may have been formed above the gravel; and that, as regards Bedford, the original deposit may have been broken up and rearranged by the invasion of a river, bearing the shells which are now found with the implements; and this seems the more likely, because that bed alone, of all the English or French true Drift beds, contains remains of reindeer and elk, mingled with those of animals now only met with in warm climates.

* "Quarterly Journal of Geological Society", vol. xi, p. 185.

It cannot be doubted that occasionally flint implements have been found lying above the lowest beds of gravel; a circumstance which may, perhaps, be explained upon the hypothesis, that they have been displaced and carried down by floods from their original position. I confess, however, that the occasional, but rare, occurrence of implements in the loess can hardly be thus accounted for; nor, indeed, can it easily be accounted for in any way, since the loess is the deposit of earth held in suspension in muddy waters. But, however this may have been, the material fact still remains, that the implements usually occur in the very lowest gravel stratum, and sometimes even on the surface of the older rock, and that this bed appears to be separated both geologically and palæontologically from the surface, as well as from the caves which are upon the surface, by an interval of such duration that it seems hardly credible that the human race should have lived through it, and left no other traces of their presence than these rude implements.

Upon the whole, the argument as to fluvial agency may be thus stated. If the contours of the surface were the same, or *relatively* the same, as at present, then the existing rivers could not have carried these gravels to the places they now occupy. If, however, the contours were not the same, or *relatively* the same, as now, then the rivers which carried them—if indeed they *were* carried by rivers—did not flow in the same course, or drain the same areas as they now do, and all traces of them have now been effaced; or, if we exclude fluvial agency altogether, nothing is left but to adopt the views held by the French geologists, as well as by Dr. Buckland and Mr. Greenough, that these superficial drifts are attributable to some kind of sudden but violent deluge, either fresh-water or marine, of short duration; and this seems the more probable, when we find that the compact beds of gravel, often fifteen or twenty feet in thickness, which overlie extensive districts in the south-east of England, are entirely destitute both of marine and fresh-water shells.

I am aware that this opinion is not now held by English geologists generally, but perhaps it has been rejected with hardly sufficient consideration. Sir Roderick Murchison, in a paper on "The Flint Drift of the South-east of England", read before the Geological Society in May 1851, expressed his belief that the mammalian flint and chalk detritus was accumulated *tumultuously*, and could not be attributed to the ordinary long continued action of water; and Mr. Prestwich, in his paper on "The Sangatte Drift" (a somewhat similar deposit), stated his opinion that the action which led to its accumulation was "sudden, powerful, tumultuous, not of long continuance, and suddenly arrested". These terms, which exactly describe diluvial as distinguished

from fluvial agency, are quite applicable to the condition and character of the Drift implement-bearing beds.

However, in either or any view of the case, it is clear that the date of these implements, having regard to geological conditions, is carried back to a period incalculably removed from that of any other works of human skill.

It is a remarkable circumstance, in relation to these deposits, that they occur only within a comparatively limited area. No true Drift implement has, I believe, ever been found in countries lying north of Great Britain; nor in Great Britain have they been found to the north-west of a line drawn from the Severn to the Wash, in Norfolk—a distance of about two hundred miles, and in the direct line of the Lias escarpment.

Was the country north-west of this line at this time submerged, or was it uninhabited, or were the people provided with implements of some other material and workmanship? The first rude approach to civilisation would be marked then, as now, by the use of stone implements; and, as flint affords the best material, it seems probable that the chalk districts, in which flint abounds, would be the first in which they would be used. Yet, while Yorkshire and Lincolnshire have chalk flint in abundance, no Drift-implement has ever been found north of the Wash. But still it is one of the many mysteries with which the subject is surrounded, that we find no traces of any export of these implements to places in which the native rock was too soft for use, or too hard to be wrought.

It is worthy of remark, that the line of demarcation between the Drift-implement districts and those destitute of them, nearly corresponds with the line which divides the boulder clay districts from those destitute of boulder clay, as shown in the map in Sir C. Lyell's work before referred to.* Both start from the estuary of the Severn, but, while the latter is drawn to the mouth of the Thames, the former extends northerly to the mouth of the Great Ouse, including all East Anglia. May it not be, that this district had emerged from the glacial sea, and, together with the region lying to the south, was inhabited by the makers of these flint tools, while the country lying to the north-west was either still submerged, or covered with ice and snow.

It remains to notice another circumstance indicative of the extreme antiquity of these flint implement beds. In the valley of the Somme, as well as in that of the Ouse, they are succeeded by a bed of peat, varying from thirty feet to a few inches in thickness, according as the under surface rises or falls; and this again overlies the remains of extensive woods of hazel and alder; and probably it was from the obstructed drain-

* "*Antiquity of Man*," p. 276.

age of these that the peat originated. In England, as in France, this peat contains the remains of a fauna entirely distinct from that of the Drift gravel. The beds in the Somme valley have been fully described by Sir Charles Lyell; but he does not seem to have been aware that precisely similar deposits were found in West Norfolk.

M. Boucher de Perthes estimated the rate of growth of this peat at three centimètres in one hundred years; at which rate many thousand years would be needed to produce the thickness of thirty feet; but, although we may well hesitate before accepting this calculation, we may be certain that a very extended period would be required for the process, and we may be equally assured that it occurred subsequently to the fabrication of these objects.

The argument as to the remote antiquity of man, as shown by these deposits, does not stop here. The chalk cliffs which are now seen on either side the Channel were undoubtedly at one time continuous; and it seems equally certain that the beds of coarse flint gravel which now in so many places lie directly upon the chalk in both countries, and in which the implements are chiefly found, were also continuous, and that thus, before the separation, both countries were inhabited by men who used the implements. Many reasons conduce to this belief. Taking St. Acheul in France, and Bedford, Brandon, and Salisbury, in England, as typical examples, we find that in both countries the implements are substantially of the same style of workmanship, associated with remains of the same extinct mammalia, and formed from precisely similar materials, found in beds of coarse quaternary gravels of the same mineral character, which rest upon the surface of the older rocks; and these, again, in both countries, are overlaid by other masses of sand and lighter gravel, and then by thick beds of loess or brick earth. These conditions seem only reconcilable with the theory that at this date the countries were united; for otherwise we must believe, that, although separated by an arm of the sea of considerable dimensions, the same geological and palæontological conditions and changes prevailed in both countries simultaneously, and that during a period extending possibly over many thousand of years; and that thus England presented, not only an exact counterpart of France in these particulars, but also in the fashion and material of its stone weapons, the date at which they were fabricated, and the causes which led to their being buried where we now find them. It is not impossible that such a series of remarkable coincidences should have taken place, but it is in the highest degree improbable.

The condition of the peat beds already alluded to affords also

a conclusive reason for attributing the separation of England from France to a comparatively recent period. In these beds, neither the Drift implements, nor the animal remains usually found with them, are ever seen. The elephant and rhinoceros and the *Bos urus* of the Drift, as well as the reindeer and hyæna of the Caves, have now entirely disappeared; and are replaced by the beaver, the wild boar, the red deer, the roe, and *Bos longifrons*. From this resemblance, or rather identity, of the fauna of the English Peat period, both in what it wants and what it has, with that of France, we may conclude that the severance did not take place until long after the formation of the peat, and *à fortiori* until very much longer after both the Drift and the Cave periods; for we must believe that the animals of the Peat period lived when they could pass freely from one part to another of what was then the continent. M. d'Archiac was of opinion that the separation took place *after* the deposit of the flint gravel (*cailloux roulés diluviens*), and *before* that of the loess;* but he does not seem to have been aware of the similarity of the loess and the peat in both countries; and his opinion, in this respect, is in effect opposed to that of the late Professor Edward Forbes, who inferred the comparatively recent date of the separation chiefly from the similarity of the flora; and, if his view be accepted, as it generally has been, we must believe that the date of the separation was long subsequent to that of the making of flint implements, since they are all far below any stratum from which the flora in question could have proceeded.

It is usually supposed, that the makers of the implements were contemporary with the mammalia, with whose remains they are often associated. I shall not venture to assert that we have any direct evidence to the contrary; but the evidence in support of this proposition seems hardly sufficient. The late Dr. Buckland long since expressed his opinion, that for a long succession of years the elephant, rhinoceros, and hippopotamus, inhabited England in the period immediately preceding the formation of the diluvial gravel; and, if so, they must have preceded the period when implements were formed from stone taken from that gravel.

In marine deposits, the sediments of deep, and probably quiet seas, juxtaposition, if it does not prove contemporaneity, furnishes a strong presumption in its favour, but this is not so with superficial deposits, which bear unmistakeable traces of violent, and often repeated, changes and displacements. The implement-bearing beds often, indeed almost always, contain fragments and fossils of liassic, cretaceous, and tertiary rocks, and yet no one

* "Bulletin de la Société Géologique de France", 1st series, vol. x, p. 220.

would think of attributing *them* to the Drift-implement period on account of their juxtaposition only ; why then should we, on account only of juxtaposition, regard the implements as contemporary with the mammalia of the Drift ?

We have already seen, that before the implements were made, it is probable that the gravel existed in the condition in which we now find it ; it was evidently brought from some distance to its present position ; and indeed Mr. Prestwich in his first paper stated that he considered the Somme Valley gravel might have been furnished by some older gravel beds ; and if so, we can hardly doubt that the teeth and fragments of bone which this gravel now contains were brought to their present position in and with that older gravel. From their broken and rolled condition it is evident that they must have travelled for some distance.

If for the reasons thus given, we find it difficult to accept the commonly received opinion, that the men of the Drift-implement period were contemporary with the animals with whose remains the implements are found, it is equally difficult to believe that they were contemporary with a far larger number of animals, I mean those of the Bone caves, with whose remains the implements of the type in question, with the exception already noticed, never are found.

While the palæontological evidence as to the superior antiquity of the Drift implement beds as compared with the Caves is not so strong as that derived from other considerations, and if it stood alone would be of little or no value, still as far as it goes it is consistent with other phenomena, and thus each branch of evidence tends to strengthen the other.

The only Mammalian remains obtained from the undisturbed Drift of the Somme, as stated in Mr. Prestwich's memoir read before the Royal Society, are as follows : *Bos primigenius*, *Cervus Somonensis*, *Elephas antiquus* and *primigenius*, *Equus*, *Hippopotamus*, and *Rhinoceros*—in all six genera and seven species. All of these have, I believe, been since found in one or other of the Drift beds of Norfolk, Suffolk, Beds, and Wilts ; with the addition of the reindeer at Bedford and Salisbury, and the elk at Bedford ; but, as it is hardly probable that the elk and reindeer were contemporary in the same country with the elephants and hippopotami, they may be excluded from the comparison. Besides these, however, there have been found at Salisbury, *Vulpes*, *Leo Capreolus*, *Sus*, *Lemmus*, *Lepus*, and *Spermophilus* ; but these being, I believe, all found only in the brick earth lying above the gravel, and being thus of presumably a later date, I have not taken them into account as of the Drift implement period.

With these exceptions, we find in all these beds so close a resemblance in palæontological and geological conditions, that it is

impossible to regard them otherwise than as representing one distinct and well marked period.

Now, if we adopt, for the purposes of comparison, the table of Cave deposits contained in Mr. Boyd Dawkins' memoir on the Distribution of the British Post-glacial Mammals,* restricting ourselves to the cases of Wokey Hole, Brixham, Gower, and Kent's Hole, which may be taken as fairly representing the Cave series, we shall arrive at the following results. In the Drift near Bedford, which seems to comprise the mammalian remains of all the other beds, we find but six genera and nine species, all of which seem to have survived until the Cave period; while, in the four caves to which I have alluded, we find no less than twenty-one species (and in one cave twenty-seven), of which only nine occur in the Drift, comprising, amongst others, the important forms of hyæna, fox, wolf, bear, machairodus, badger, lion, elk, and hare, and thus exhibiting the first appearance of carnivorous animals amongst the post-glacial mammals of which we have any evidence; and upon these data, judging, or rather conjecturing, from all known analogies, as to the time that would have been requisite for the introduction of so many new species, these additions to the fauna can only properly be attributed to climatal and other changes, for which vast intervals of time must be allowed. It cannot be doubted that the fabrication of the implements preceded the reiterated denudation which produced the diluvium of the Somme, and the English deposits come within precisely the same category. These reiterated denudations could only have been accomplished by changes, extending over very prolonged periods, and thus ample time would be allowed not only for the disappearance of the race of men who used the Drift implements, and for their replacement by the men of the Caves who seem to have lived upon the surface as now seen, but also for the appearance of so many new species of other animals.

Such, then, being the evidence derived from geological and palæontological considerations as to the interval separating the Drift from the Cave deposits, I pass on to the archæological or technological evidence. I have already pointed out that, with few exceptions, which, having regard to the material and the paucity of forms into which it could be made, seem by no means conclusive as indicating contemporaneity, the implements of the true Drift type do not resemble those found in caves, it remains to show that many of the implements found in the caves have never been met with in the Drift.

The principal English caves in which works of art have been found are those of Kent's Hole, Wokey Hole, Brixham, and

* "Quarterly Journal of the Geological Society, 1859, vol. xxv, p. 192.

Gower; and, as I have taken these as typical of the Cave fauna, it is only proper to take them as representing the Cave implement period.

Sir John Lubbock describes the contents of the Bone-caves, in general terms, as consisting of flakes, simple and worked, scrapers, awls, cores, lance-heads, cutters, hammers, and mortar-heads—a description which, although it does not comprise all the Cave objects, agrees, in the main, with that given by other authors. But, while not one of these forms is ever found in the Drift, every one of them is met with, somewhere or other, upon the surface, and they thus overlies and succeeds the great beds of Drift gravels and sands, already alluded to. I have myself procured from warrens and fields in West Norfolk, large numbers of slender flint flakes and scrapers and other objects, exactly corresponding, in form and material, with those found in French and English Bone-caves.

It appears, then, that, with the exception before alluded to, the works of art found in the Bone-caves in England differ from those found in the Drift. The same differences are observable in France; and it seems, therefore, reasonable to conclude that they were, in both countries, the work of different races of men, and, when regard is had also to the difference in geological and palæontological conditions, to a race living at a very much later period.

I proceed now to consider the stone implements of later, and comparatively recent date, which may be divided into two principal groups—the unpolished and the polished. Each of these seems to mark a distinct epoch in the history of the earlier races of mankind, and each of them is clearly distinguishable, as well from the Cave period as from each other, by its association with other works of art or other animal remains. The geological evidence, it is true, is here wanting, but that derived from palæontology is irresistible.

The unpolished flint and stone implements of this order comprise javelins, scrapers, knives, discs, and implements of lanceolate forms, arrow-heads, flakes, and several other articles of which the use is now unknown. These are often found lying on the surface, especially in chalk districts, and they very often occur in barrows or *tumuli*, near the remains of those who, when living, probably used them, and they were perhaps so placed by the survivors, under the belief that they might be available in another state of existence.

These objects have been usually attributed to the Neolithic or Polished Stone age, and are also regarded as having preceded that of Bronze: an arrangement, however, which seems to me hardly maintainable, at least as regards England. With the ex-

ception of certain axe-hammers of polished stone, which, judging from their very superior workmanship, and the nature of the stone, were in all probability imported from abroad, the stone implements found in the *tumuli* are almost invariably of very rude and coarse workmanship,—much inferior to those of the Drift, and are never ground or polished; and, so far from having preceded the use of bronze, they are constantly found in the same graves with daggers, and other objects formed from that metal.

There can be no doubt as to their recent date, as compared with the objects already described. Not only are they often associated with the bronze daggers and knives (probably in those instances in which the deceased was of sufficient wealth and importance to possess such weapons), but sometimes with rings, beads, and other ornaments of jet, and bone spears, and, notably, with funeral pottery of various forms, suggesting at least, although not proving, a greater progress in the arts than was possessed by the Cave dwellers.

But far more conclusive proof of a comparatively very recent date is to be found in the character of the animal remains with which they are associated. We no longer meet with the remains of those great carnivores and pachyderms which are so abundant in the Caves; they are succeeded by a fauna almost entirely new, comprising our present domestic animals, the cow, the sheep, the goat, dog, and rabbit.

One remarkable circumstance connected with these forms, particularly the flakes, and cores, and scrapers, is their cosmopolitan character. Objects of this kind, little differing from English and French forms, have now been found in India, Egypt, Arabia, Algeria—in short, in every quarter of the globe, and almost in every country. They occur abundantly in England, throughout those districts in which chalk flint is found, and especially in and near the site of ancient British camps; and they occur also occasionally at a considerable distance from the chalk, from which we may conclude that they were the subjects of some kind of commerce.

It is also to be noticed, as showing the long endurance of certain forms, that just as we have seen that a few of the Drift forms were reproduced with but slight variation in the Cave period, so we find the rude scrapers and flakes of the English Bone caves, as well as the cores and flakes found in the caves of the Dordogne, reproduced in the barrows of Wilts and Yorkshire and Derbyshire. This apparent overlapping may perhaps be accounted for by the fact, that the character of the flint, and its peculiar fracture, allowed of but little variety in the form of the articles made from it, and that thus, to a certain extent,

every workman must have imitated the work of his predecessor; and, possibly, the men of the later period may have imitated some of the more ancient forms which came by accident under their notice.

It only remains to say a few words as to the polished stone implements known as Celts, so frequently found on the surface and in peat bogs, and occasionally in chambered dolmens. We have no means of ascribing a date to them in the sense of chronology, yet we have good reason, as it seems to me, to conclude that they are of far later date than any of the forms already noticed, as they are not unfrequently found in company with superior works of art, and indeed sometimes, although rarely, with Roman coins. They are never associated with the remains of extinct mammalia, as is the case with the Drift and Cave implements; they are of a far more laboured and expensive style of workmanship than those of the barrows, and are very frequently made from stone which is only found at a great distance from England.

Both Canon Greenwell and Dr. Thurnam, who have so long and so successfully occupied themselves with the examination of British *tumuli*, inform me that they have never found a polished celt in any British barrow; and, although two or three instances are mentioned in Sir R. C. Hoare's "*Antient Wilts.*," and one or two others in the late Mr. Bateman's works, yet, as these are the only ones observed in many hundred interments, it seems not improbable that they should be ascribed to secondary interments of a later date.

It has been usual with some continental writers, and indeed with some of our own, following their method, to consider the Bronze age as succeeding to the Neolithic, and as representing a distinct epoch; and there certainly seems to be a kind of symmetry and propriety in such an arrangement, but, so far as our own country is concerned, I do not think it will hold good.

For every polished stone celt found in barrows, there have been found probably thirty or forty objects in bronze; and, indeed, allowing for and excluding the burials of women and children, and the loss or decay in many cases of the bronze, almost every grave of an able-bodied man of the Barrow period probably contained a bronze dagger, usually associated with very coarse flint flakes or stone; and even when bronze is found in dolmens, it is usually associated with polished implements: so that, for these very extended periods, the use of bronze seems to have been coeval with that of polished stone, if it did not, indeed, precede it.

Almost the only polished implements found in the barrows are the stone axe-hammers, and these, as before observed, from

the character of the stone and the great skill found in their workmanship as compared with the flint flakes, were probably imported, and, if so, we should hardly be justified, so far as England is concerned, in entitling the age in which they were used as the *polished* stone period.

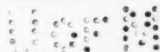
The conclusions which I think may be drawn from what is above stated, may be thus summed up. The Drift implements were made and used before this country was separated from France. The gravels in and under which they are found were not transported by any waters flowing in the same channels as the existing rivers, even if transported by fluvial action at all, which is doubtful. That it is by no means certain that the makers of the Drift implements were contemporary with the animals with whose remains the implements are sometimes found. That as the Cave implement period was probably of a later date than that of the Drift, so it was earlier, by a vast interval of time, than that of the *tumuli* or barrows; and this also, in all probability, was far earlier than the Neolithic or Polished stone period. The use of Bronze, being common to both the polished and unpolished Stone implement periods, cannot properly be regarded as constituting a distinct era. Lastly, that for these reasons, the arrangement usually adopted of dividing the Prehistoric Stone period into two—viz., Palæolithic and Neolithic—seems to be insufficient, and as it is inconvenient to multiply terms, I would suggest that the Drift implement period might be known as Palæolithic, that of the Caves might be termed Archaic, and that of the Barrows as Prehistoric, while the Polished Celts might retain the designation of Neolithic. And, so far as England is concerned, it would seem that the term Bronze age or period might, very properly, be abandoned, as the use of it is productive of misapprehension.

DISCUSSION.

Mr. EVANS had not time to say more than that, while thanking Mr. Flower for his paper, he thought that some of its facts were susceptible of correction, and that some of its conclusions could not meet with general acceptance. He was glad that the subject was brought under discussion; the necessity for which was shown by the author, after such opportunities for research and lengthened study, having arrived at results so widely differing from those of other observers.

Colonel A. LANE FOX said that many of the points on which he concurred with the author had been so well expressed in the paper, that it would be superfluous for him to recur to them; and he would, therefore, confine himself to some few points in which he ventured to differ from him. He thought that the author had exaggerated the number of distinct types that were to be found amongst the implements of the Drift, and this had led him to a false inference that they

denoted a comparatively high state of culture ; neither could he concur in thinking that the distinctions between the paleolithic and neolithic types were so marked as the author had represented. Mr. Flower has very truly remarked that the implements of the Drift were formed out of the gravel-stones that were found upon the surface ; we know that these gravel-stones present very great varieties of form, and there is evidence that the workers of them were very much guided in forming their implements by the forms of the stones out of which they made them : out of a long pointed stone they would form a long pointed implement ; and of a round or oval stone they would form a round or oval implement. Owing to the immense variety of the forms produced in this way, it is easy to bring together from distant localities two or three implements exactly resembling each other, and assume that they constitute a distinct type ; but, if we examine the whole of the specimens derived from any one of the localities in which these implements are found, we find that they present every shade of intermediate variety between what Mr. Flower has selected as distinct types, and that there is absolutely no line of demarcation to be drawn between them. In order to determine a distinct type, it should be shown that it is unusually prevalent in a particular locality, or there should be evidence of a distinct design on the part of the fabricator, and something more than a mere variety influenced by the form of the stone. He thought that such distinct types did exist in the Drift, but not in any such number as had been supposed by the author. There was a class of implement, rounded or left in its natural form at the butt-end, and adapted to be held in the hand ; and there was another class of implement chipped to an edge all round, at the base as well as at the sides and point : such an implement was not adapted to be held in the hand, and might very probably have been used in a handle ; if such were the case, it would imply a distinct design on the part of the person who made it. He believed there was no evidence of these two kinds of implements having belonged to different periods of the Drift deposits ; nor, indeed, was there evidence of that with respect to any of the Drift types, but there was sufficient evidence of design to entitle them to be ranked as distinct types. Now the most highly finished of these two types—that which was chipped to an edge at the base as well as at the sides—approached very closely to the form of the celt of the neolithic period, especially the unpolished celt of that period. There was, no doubt, a difference between them : one was probably intended to be used with the pointed end, and the other with the broad end ; but the distinction consisted in a very slight difference of outline, and in the relative position of the thickest part—a very slight improvement as compared with the invention of a handle, if such actually took place during the Drift period. There was, in reality, less difference between the chipped Neolithic celt and the most perfect of the two Drift types he had described than between the two latter ; and, therefore, he thought, no archaeological evidence of any vast interval of time between the Drift and the Neolithic periods. Besides which, the



Drift type, as the author had said, had been found in one of the French caves; and the leaf-shaped spear-heads found in the caves were, after all, little more than eliminative, and more highly finished Drift types slightly modified in form. The other relics from the Caves no doubt denoted a progress upon those from the Drift; and the type of the Surface period denoted a still further progress upon the Cave period; but any evidence of these might be of a vast interval of time, or a considerable break in the continuity of civilisation, must, he thought, be geological and palæontological, not archaeological. With respect to the erosion of the valleys, he would not occupy the time of the meeting with any remark of his own, as they would, doubtless, be anxious to hear the President, who had paid so much attention to this subject. He would only say, that his own observations arising from the examination of the deposits in the Thames Valley led him to believe that the large tracts of brick earth, which were found always overlying the gravel to the depth of from six to ten feet, implied a vastly greater extent of water than existed at the present time; it would be impossible for such a thickness of sediment to have been deposited over such large areas by any river of the dimensions of the present one, flowing under the same conditions as at present. Notwithstanding this difference of opinion, he thought that the paper was an exceedingly valuable one; it was most desirable that the current opinions upon those subjects should be criticised from time to time by persons possessing the great experience and abilities of the author of the paper.

Mr. FLOWER, in reply, said that at one time he held the opinion which Colonel Fox had expressed with reference to the variety of forms of the Drift implements; but having since that time procured several hundred specimens from the Little Ouse valley, and having examined also many more, both English and French, he was quite satisfied that the differences in question were designed, and not accidental, and that pieces of stone of the same size and quality were purposely wrought into very different shapes. To show this, it was only necessary to examine the specimens produced, which comprised at least fifteen varieties, of each of which several examples could be produced from his own and other collections.* He did not consider that this greater variety in form indicated any great degree of culture, but simply a distinct period and people; and he quite admitted that it furnished no argument whatever as to the length of the interval (if any) between the Drift and the Cave periods—a question which rested upon very different grounds. And, in reply to some observations made by the President, upon the question of the supposed fluvial transport of the Drift implement gravels, Mr. Flower said he could only repeat, that the gravel found on Brandon Hill could not have been brought from any deposit higher up the river, but must have come from the west—the very opposite direction; and that, even if it were otherwise, and if it were the fact that no foreign rocks were to be found in the valley, that circumstance could not be

* The accompanying plates exhibit the close correspondence between two, out of several, forms which are found both in England and France.

relied upon as conclusive against the theory of diluvial, as distinguished from river action; inasmuch as a deluge might very well be of short duration, and incapable of transporting rocks to any very great distance. Further, that it was by no means improbable that this, like some other valleys, was formed before the river took its present course, if not before the gravel was distributed. As in the case of the Itchen, there were no indications that the river had once flowed at a higher level, and had afterwards deepened its channel, as suggested by the President; on the contrary, the configuration of the surrounding districts was inconsistent with such a belief, inasmuch, as already observed, the water-sheds would not have sufficed for the purpose; and further, the waters would have found an outlet to the low lands, and thence to the sea, long before attaining the eminences at which the gravels were found.

The following paper was then read:

NOTES on some ARCHAIC STRUCTURES in the ISLE OF MAN. By
A. L. LEWIS, M.A.I.

THE Isle of Man, full of attractions for the anthropologist, the archaeologist, and the admirer of the beauties of nature, though visited annually by thousands of pleasure-seekers, among whom are, doubtless, many on more serious thoughts intent, possesses numerous ancient monuments, which may not as yet be known to all the members of the Anthropological Institute, and it is to a few of these that I would draw your attention on the present occasion.

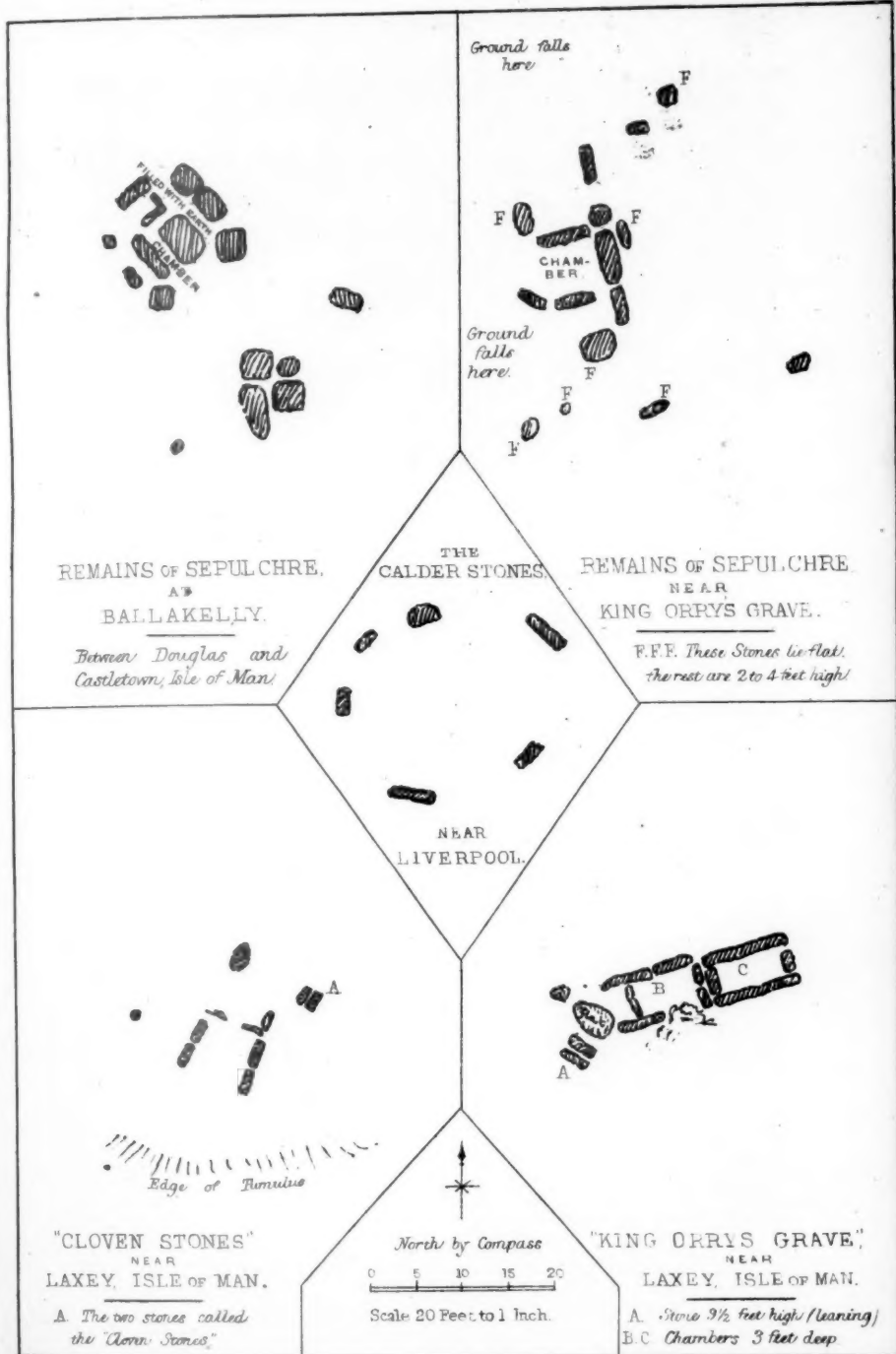
The first which I visited was the celebrated Tynwald Hill, a mound of earth about twelve feet high and eighty yards in circumference, the sides of which are cut in terraces, but of which, as it has been described in every publication respecting the island, I did not myself take any measurements. This, as is well known, is the place from which the laws of the island were proclaimed, and has been used for similar purposes from time immemorial. Its foundation is generally attributed to the Scandinavians; but it is not unlikely that it may be of still more ancient origin, as the Celts are believed to have used artificial mounds for similar objects. The renowned Silbury Hill, near the great circle of Abury, has been conjectured, and with much probability, to have been a place for national assemblies and proclamations, and is undoubtedly pre-Roman.

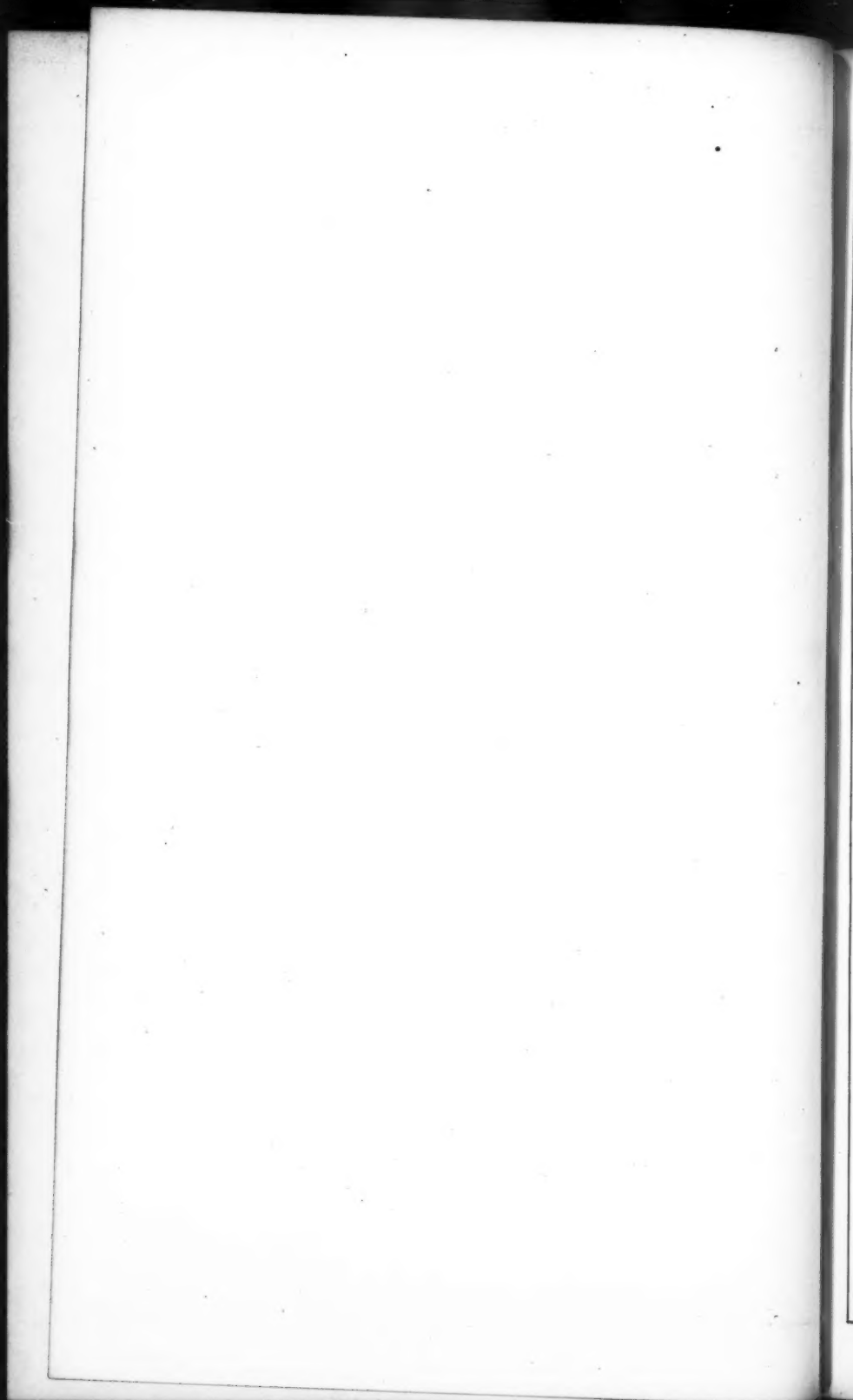
Tynwald Hill stands at the crossing of four roads; and, at the entrance of the most northerly of these, on the left hand side, built into a bank formed by cutting the road down to its present level, and as nearly as possible, I believe, in the position in which it was found when that operation was performed, is a kist, about five feet long inside, formed of rough stones, with one

seven feet long as a cover. This kist is said to have been the burial-place of King Regnwal, whose reign over Man terminated in 959.

On my return from Tynwald Hill to Douglas, I visited one of the most curious remains in the island: it is situated at or near a place called Mount Murray, about two miles south of the road from Peel to Douglas, and consists of a circle, about forty-seven feet in diameter, formed of a slight bank of earth, two or three feet high, but now effaced in many places, with small stones of about the same height placed here and there in the bank; it is probable that these stones originally stood round the inside of the bank at tolerably regular intervals, but only nine or ten now remain in position; two of them are placed crosswise to the bank, at a small gap two feet and a half wide, which has the appearance, therefore, of an entrance; but the main entrance was on the opposite side, where two banks of earth, four or five feet high and eighteen feet apart at the entrance, form an avenue which winds nearly half round the circle, diminishing both in width and in the size of the banks, which, indeed, finally disappear as it approaches the circle. Here, as in the circle, stones are placed against the banks, and, as the banks of the avenue are larger than those of the circle, the stones follow the same rule, being three or four feet in height and width and one or two in thickness. Between the entrance to the avenue and the circle (about forty feet) is some moist ground, where, in wet weather at least, a spring rises, and forms a tiny stream, which is crossed by the avenue before it joins the circle. The avenue is about 150 feet long, but can now only be faintly traced except at the entrance. This singular structure differs from all that I have seen; but was, I imagine, a place of public assembly, if not of public worship, at some distant, and probably pre-Scandinavian period. I had understood that there were other remains near by; but my various inquiries after them only led to my being conducted, after a walk of three or four miles, back to those I have described. However, although I was unable to find them, I believe there are others, probably sepulchral, in the vicinity.

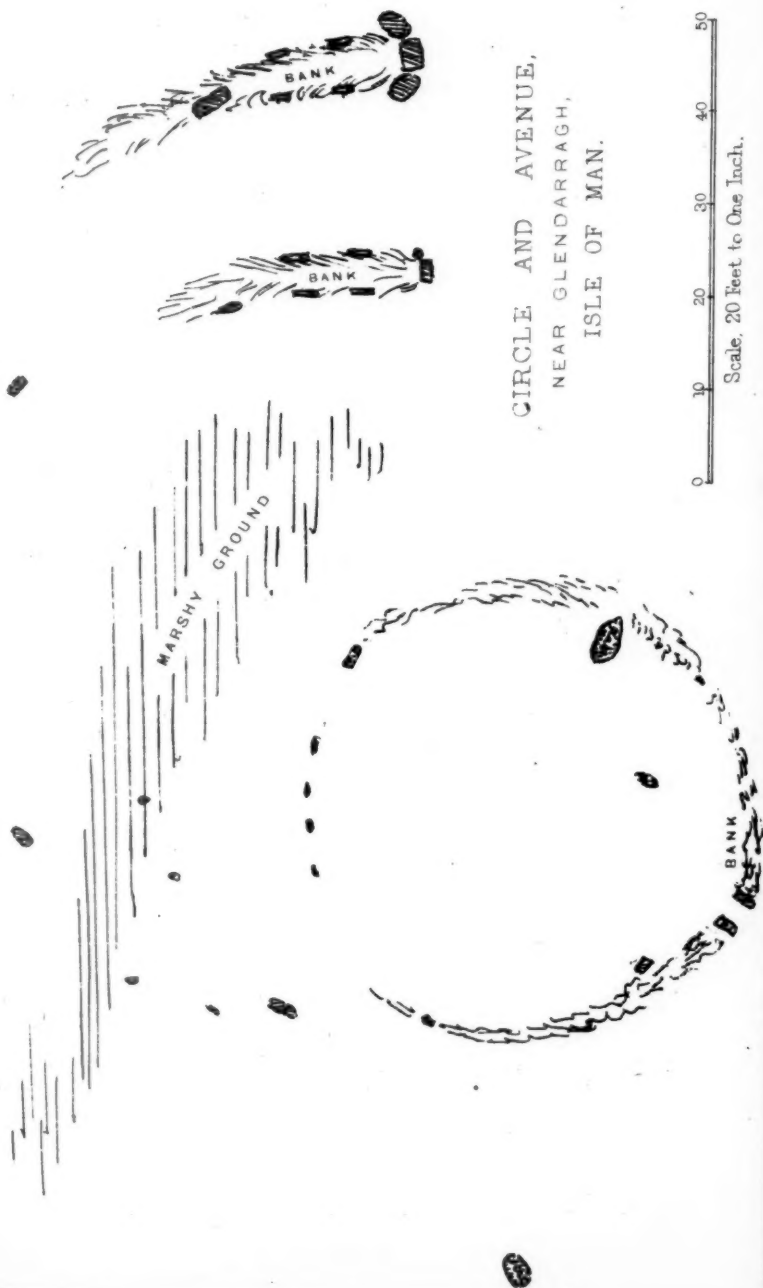
My next visit was to the beautifully situated little town of Laxey, close to which, on the left hand side of a lane running from the left of the Ramsay road, stand, in a garden belonging to a small cottage, the remains of a sepulchre called King Orry's Grave. It consists of two chambers in line, 15 deg. north of east by compass, the sides of that to the east being formed by two slabs, each nine feet long, four to five high inside, and one thick, standing three and a half feet apart; the second chamber was of much the same dimensions, but its sides were each formed by two stones instead of one, and it was separated from





CIRCLE AND AVENUE,
NEAR GLENDARRAGH,
ISLE OF MAN.

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the first by two other stones, which, from their shape, left an elliptical opening in the middle. Openings of this kind, whether in a single stone, or formed, as in the present case, by the junction of two stones with curvilinear edges, are not uncommon in connection with megalithic monuments, and are believed by some, and perhaps not without reason, to have a phallic origin and signification. Both these chambers are sunk in the earth about three feet; but the stones which covered them are gone, though pieces of those which formed the ends remain. At the south-west corner, and leaning in a south-westerly direction, is a large stone, nine feet and a half high, two and a half broad at the base, and nine inches thick, with one of the same width and thickness, but only two feet and a half high, in front of it. The total length of the structure from these stones to the east end is twenty-four feet. A boy belonging to the neighbourhood showed me a thin piece of iron, which might have been part of an antique horseshoe, and which he said had been dug up in this sepulchre, but which he refused to sell.

On the opposite side of the little lane I have mentioned, I found the remains of another sepulchre. A line of four stones, varying from two to five feet in width and height, and one to two feet in thickness, ran 10 deg. west of north by compass, and appeared to have formed the north-eastern end of, perhaps, three chambers placed in a row; the centre one of these could clearly be traced, and was about six feet square, but the stones were scattered about in such a manner that it was quite an open question whether there had or had not been another chamber on each side of it. About four feet from the north-east corner, stood an upright stone three feet and a half high. The whole structure was much buried with earth, vegetation, etc., and was very ruinous; it was, moreover, in such perilous proximity to some houses that were being built, that I greatly fear that by this time it no longer exists.

Close by the road from Laxey to Douglas are the remains of another sepulchre, called the Cloven Stones, situated, as are those I have just described, so as to overlook the sea. It consists of a chamber, about six feet and a half square, each of the three remaining sides of which are composed of two stones, which were originally each about three feet high and wide, and one thick. In this, as in the chambers previously described, the roof, whether composed of large flat stones or of smaller stones built into a vaulted form, is entirely gone. About five feet from each of the northern corners of this chamber, and about seven feet apart, are two upright stones, between five and six feet high, and from two to three feet in width and thickness, one of which

has been split down lengthwise (if indeed it were not so originally), and gives the name of Cloven Stones to the structure. All the stones stand on a small tumulus, and the chamber is partly buried in it. It will have been noticed that all three of these sepulchres have upright stones adjoining them, answering to some extent, it may be, to the modern headstone, a feature which, though sometimes observed in England, is, I believe, more characteristic of the Scandinavian remains, and, with other circumstances, leads me to think it not unlikely that the common report, which makes these Manx sepulchres Scandinavian rather than Celtic, may be correct.

The last prehistoric monument which I had an opportunity of observing in Man, is situated on the right hand of the old road from Douglas to Castletown, near a place called Ballakelly, and, at first sight, appears a perfectly shapeless mass of stones, but, on examination, presents the appearance of a rude chamber, five to six feet long by one and a half wide, with other stones round it at a distance of about two feet, forming a kind of walk round it, and resembling in this particular some sepulchres which Dr. Sinclair Holden has found in Antrim. Four yards to the south-east are four stones heaped together, and two yards and a half respectively to the north-east and south-west of these are two other stones. The dimensions of the stones forming this group are from two to five feet in height and one to five in breadth and thickness. The chamber runs about south-east by compass, and is different in this respect to those previously mentioned, which, though differing from each other, all run in a direction between north and east. The differences of construction and orientation, and its partial resemblance to some remains in Antrim, may perhaps fairly lead us to assign this chamber to an earlier period than those first mentioned, so that, if they be thought to be Scandinavian, this may be considered Celtic.

Several other monuments are known to exist in Man; and, in the more remote corners of the island, there are probably many which are as yet unknown, and which may present new features, so that any archaeologist going there, with plenty of time at his command, is likely to find much that is new, as well as valuable, to reward his pains.

Liverpool being the most usual point of departure for the Isle of Man, a few remarks on the circle situated about three miles from that city, and known as the Calderstones, may not be deemed an inappropriate conclusion to the present paper. The stones are six in number, and are surrounded, for their preservation, by a high iron railing, which prevented my getting at them to take exact measurements. They vary from three to six feet in height, two to five in width, and one to two in thickness;

and form an oval, the diameters of which appeared to be eighteen and twenty-four feet, the longest diameter running about fifteen degrees north of east by compass, and the highest stone being, as at Stonehenge to the south-west. On this stone are some small concentric markings, but whether of great antiquity I am not prepared to say, as the other stones bear some unmistakeably modern carvings; and the concentric form of mark, such as it appears there, is not unlikely to suggest itself to the benighted minds of the owners of the idle hands which find so much mischief to do to all ancient structures. I consider this circle to have been sacrificial; for, though small, it is as large as some of those in India mentioned by Colonel Forbes Leslie; but any outlying stones it may have possessed have long since disappeared to make way for the roads which meet at the point where it stands.

DISCUSSION.

After a few remarks from the President and Col. Lane Fox,

Mr. LEWIS, in reply to Col. Lane Fox, said he did not think, from their position and appearance, that the upright stones which he had likened to headstones could have been the remains of a circle which had formerly surrounded the chambers. He did not insist upon the division of the sepulchral chambers between the Celts and Scandinavians which he had suggested, but he thought that the probabilities were in favour of it. He referred to a note he had received during the evening from Dr. Carter Blake, in which that gentleman deprecated attaching too much importance to the Scandinavian influence in the Isle of Man.

The meeting then adjourned.

 NOVEMBER 20TH, 1871.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

The minutes of the last meeting were read and confirmed.

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From the AUTHOR.—Iconografia di alcuni oggetti di remota Antichità Rinvenuti in Italia. By Prof. B. Gastaldi.

From the SOCIETY.—Bulletin de la Société Impériale des Naturalistes de Moscou, Nos. 3 and 4, 1871. Nouveaux Mémoires do., No. 3, vol. xiii.

From the EDITOR.—The Food Journal, Nov. 1, 1871.

- From the EDITOR.—*American Eclectic Medical Review*, Oct. 1871.
 From the EDITOR.—*Proceedings of the American Philosophical Society*, No. 86, Jan.—July 1871.
 From the AUTHOR.—*Ueber die Verschiedene Krümmung des Schädelrohres*, etc. By Prof. A. Ecker.
 From the AUTHOR.—*Nineteenth Annual Report of the Manchester Free Library*, 1870-1. By Dr. Crestadoro.
 From the EDITOR.—*Nature*, to date.
 From the EDITOR.—*Matériaux pour l'Histoire primitive et naturelle de l'Homme*, Oct. 1871.
 From the AUTHOR.—*Eastern (East African, etc.) Slave Trade*. By J. A. Challice.
 From the EDITOR.—*La Revue Scientifique*, No. 20, Nov. 1871. M. Alglave.

The following paper was then read :

On ANTHROPOLOGICAL COLLECTIONS from the HOLY LAND. By RICHARD F. BURTON (late her Majesty's Consul at Damascus). *With NOTES on the HUMAN REMAINS.* By Dr. C. CARTER BLAKE, F.G.S.

MR. PRESIDENT AND GENTLEMEN,—Before proceeding to the business of the evening, I may perhaps be allowed a few words of personal explanation, and briefly render to you all an account of my stewardship as your representative during the last two years in Syria and Palestine, the so-called Holy Land. Firstly, allow me to express my satisfaction at finding myself again standing in this room,

“Where, girt by friend or foe,
A man may speak the thing he will.”

But the two years have brought with them many a change. I miss an old familiar face and the cheery presence of the founder and president of the Anthropological Society, my energetic and indefatigable friend, the late Dr. James Hunt. The newspaper press throughout the world has borne such testimony to his efforts in the cause of anthropology, that nothing remains to add to his fame. Secondly, I must congratulate you upon what the *Court Journal*, when announcing a marriage *à la mode*, is apt to term the uniting of two ancient families—in other words, the amalgamation of two Societies, which always should have been one. This happy union has been successfully effected, and now it remains only for us, by extending and by maturing our system of establishing local secretaries and collectors over the globe, to take that position which the high importance of our studies claims. It is, perhaps, not generally known, even in this room, that the Brazilian coast, from Rio Janeiro to the Southern province, Rio Grande de Sul, is fringed with a mighty

line of "kitchen-middens". These have been found even in the Bay of Rio, upon the shores of the Ilha Grand; whilst from my pleasant and salubrious station, Santos, one of the S'a Leones of the Brazil, I sent home to this Society specimens of the hatchets used by the Tupy race for opening shell-fish, and mostly of the class denominated palæolithic or archaic. I use the words generally, not confining "palæolithic" to the Driit period, or "archaic", as has been proposed for the Cave implements; whilst "prehistoric" is limited to those of the Tumuli, and "neolithic" to the finished and polished specimens. A pluralist as regards employment, I can hardly find time at present for working up my long notes upon this subject; but I shall be most happy to place them in the hands of any brother member, who has leisure and inclination to attempt the task.

Since we last met in this room, I have had two years of service in Syria and Palestine; and I may assure you, gentlemen, that I have not found the Holy Land a bed of roses. Without entering into political or official matters, which would here be out of place, I may, in a few words, assure you that my post was one of great difficulty and of greater danger. I have been shot at by some forty men, who, fortunately, could not shoot straight; I have been seriously wounded on another occasion; and, lastly, my excellent friend and fellow-traveller, Charles F. Tyrwhitt Drake and I were pursued by a party of about three hundred Bedawin assassins, placed upon our track by a certain Rashid Pasha, late Wali or Governor-General of Syria. On the other hand, my friend and I have been able to explore the highly interesting volcanic region lying immediately to the east of Damascus, and to bring home a plan of the giant cave, which seems to have been mentioned by Strabo. We have also mapped the whole of the Anti-Libanus, a region far less known than the heart of the Andes, the best proof being that upon the best maps the name of only one peak is given, and even that is given incorrectly. Our notes upon the subject are reserved for the Royal Geographical Society, whose actual President, the world-famed Sir Henry Rawlinson, has, in his opening address of Monday, November 13th, made courteous allusion to our labours: it is sufficient for me here to state that our joint publication will alter the map of Northern Syria. And, neglecting all details concerning the peculiar circumstances which led to my leaving Syria, I may briefly assert, that the action taken by the authorities has led to a result which I hardly expected: it has made my name historical in the Holy Land. The Moslems of Damascus gathered in thousands at the great Amawi, or Cathedral Mosque, of that once imperial capital, and had public prayers for my return; whilst Mrs. Burton was

compelled to quit the city privately, in order to avoid a demonstration which might have been dangerous. You will excuse me if I have made these personal details too personal; but I feel it due to you and to myself that my unexpected appearance in this room should be honourably accounted for.

Before proceeding with the business of the evening, I will read a note addressed to me by my friend Mr. Fred. Collingwood.

“November 15th, 1871.

“My dear Capt. Burton,—I am directed, on behalf of the Publication Committee, to ask what illustrations you wish should accompany your papers on Collections from the Holy Land; and whether we can help you in the preparation of diagrams for our evening meetings.—I am, yours faithfully, J. FRED. COLLINGWOOD.”

The wishes of your Council should have been consulted upon this and other matters; and, indeed, without illustrations it is almost useless to describe a great variety of articles, especially silver implements. Unfortunately, however, time is wanting; and the delightful hospitalities of an English country-life have, I fear, considerably modified the rugged energy that results from wild travelling.

It has been suggested to me that a few words of explanation, concerning a report now made public by the press, may be desirable, as certain persons may be expecting me to lecture upon a man fourteen feet long. The fact is, that Capt. Murray, R.N., a Fellow of the Royal Society, lately informed me that, when excavating at Ramlah, near Alexandria, he came upon some ancient catacombs; that he found a skeleton measuring eleven feet long; that he carried off sundry ribs and vertebræ, and that he still possesses one of the latter. He has promised me the loan of it; and, should the article be forthcoming, its first appearance shall be in this room.

In offering you this instalment of a catalogue *raisonné* of an anthropological collection made in Syria and Palestine, between April 15th, 1870, and August 6th, 1871, I purpose, with your permission, to read out a list of the articles lying upon the table; to illustrate the position of the finds by certain topographical remarks, which I beg leave to say will not be found in the guide-or hand-books; and, finally, to refer the matter to Dr. C. Carter Blake. My friend has kindly volunteered to supply my deficiencies in comparative anatomy and zoology; and we shall both feel grateful for all suggestions and additional information, especially concerning the mummy cloths and the tesserae, which may be offered by learned members of our Institute. In conclusion, we owe the loan of the map to the kindness and courtesy of Mr. Secretary Bates and Captain George, R.N., of the Royal Geographical Society. I may note in connection with it that,

strange to say, the position of Palmyra is yet undetermined. The following are those most generally adopted :

Lieut. Vigne's (Duc de Ligny's map) : N. lat., $34^{\circ} 32' 30''$; E. long., $38^{\circ} 14' 39''$.

Lieut.-Colonel Chesney's map (Walker) : N. lat., $34^{\circ} 15' 00''$; E. long., $38^{\circ} 35' 00''$.

Carl Ritter : N. lat., $34^{\circ} 17' 30''$; E. long., $38^{\circ} 32' 30''$.

Major Rennel : N. lat., $34^{\circ} 24' 00''$; E. long., $38^{\circ} 20' 00''$.

Murray's Handbook has adopted, from Rennel and Lieut. Vigne's : N. lat., $34^{\circ} 35'$; E. long., $38^{\circ} 14' 39''$.

I am informed by Mr. Stanford, R.G.S. (6 and 7, Charing-cross), that the position of Palmyra is not given in Ritter's *Erdkunder*.

Catalogue Raisonné of an Anthropological Collection made in Syria and Palestine, between Apr. 15, 1870, and Aug. 6, 1871.

No. 1 LOT.—The following is a list of the articles which were collected at Palmyra, during a tour which lasted between April 5th and April 21st, 1870.

7 skulls ; $3\frac{1}{2}$ jaws, and sundry fragments ; 1 hand, perfect ; 1 ditto (minus thumb), and fragment ; 1 foot.

1 parcel of bones ; namely, 2 thigh-bones, a foot nearly perfect, a back and ilium of a mummied child, 3 spinal vertebræ ; various fragments of skulls, ribs, spine-bones, and tibiæ, with odds and ends of bone.

1 parcel of common mummy cloth, mostly cotton (?), including a hand.

1 parcel of coloured ditto, yellow with purple edging, being the most common ; a bit of blue stuff (linen ?)

2 fragments of bitumen cup (?), like those made at Kabr Músá (Moses' tomb, west of Jericho).

$3\frac{1}{2}$ mortuary lamps.

4 fragments of rough old stone pottery, like our greybeards.

A remnant of shoe-leather (?)

Specimen of mummied hair, stained yellow (raddled ?)

1 oblong tessera, with Palmyrene inscription.

9 circular tesserae, one inscribed.

7 oval and square tesserae.

2 pyramidal ditto.

1 circular pebble, apparently worked.

Miscellaneous.

25 coins of little importance. These we picked up everywhere at Palmyra : we never walked out without finding some.

1 glass coin, apparently of the same kind offered for sale at Tyre. None of the Palmyran collections which I have inspected

contained any glass coins. In the eighteenth century, glass money for local currency, like the Hebrew bank-notes of Tiberias and Safet, was made at Hebron.

26 slate stones, 1 peach (?) stone and 1 apricot-stone, taken from mummy heads. No skull was found without them. At Shakkah (Saccæa), in the Jebel Duruz Haurán, the succedaneum is an almond-shell with the sharp end cut off, and forming a diminutive cup.

1 coin, Leon and Castile.

6 fragments of pottery.

1 fibula.

1 bell.

1 mutilated figure (Virgin and Child ?)

1 bloodstone, engraved with figures of two horsemen.

1 scalloped bead.

1 Egyptian figure (?).

1 larger figure (Egyptian ?).

1 smaller figure.

2 seals.

1 scarabæus.

The skulls, bones, and mummy cloths, are evidently those of the ancient and pagan population of the Palmyrum. The tomb-towers, whose age is known to bear date 314—414 of the Seleucidan era, corresponding with our A.D. 2 and 102. It is highly probable that the heathen practice of mummification declined under Roman rule, or after A.D. 130, when the great half-way house between the Mediterranean and the Indian Ocean became Adrianopolis. Still vestiges of the old custom are found extending far into the second century, when it is believed that the Himyarite Benú Ghassán (Gassanides) of Damascus had abandoned their old faith for Christianity.

Our short visit of five days allowed me only a day and a half to try the fortune of exploration at Palmyra. It is easy there to hire a considerable number of labourers at two and a half piastres a head per diem—say sixpence—when in other places the wages would be at least double.* I secured forty-five coolies, who had nothing but diminutive picks and hoes, grain-bags and cloaks, which they converted into baskets for removing sand and rubbish. Operations began (April 15th, 1870) at the group of tomb-towers marked "cemetery" in the Handbook, and bearing W.S.W. from the great temple of the Sun. It is one of the two Viæ Appiæ, which enter, or rather which entered, Palmyra :

* The labourer's wage throughout Palestine would now be five or six piastres, a little more than one shilling. In the days of the New Testament money must have been nearly as dear again ; for we find a denarius (sevenpence-halfpenny) paid as the established price of a day's work.

this is upon the high road to Damascus; whilst the other, to the north-west of the official or monumental city, was doubtless the main approach from Hums and Hamah. Both are lined on each side with the monuments which here take the place of the Egyptian pyramids; and their squat solid forms of gloomy and unsquared sandstone contrast remarkably with the bastard classical Roman architecture, meretricious in all its details, and glittering from afar in white limestone.

I chose the south-western group, because it appeared to be the oldest of the series. The Fellahs know it as Kusúr Abú Sayl, the Palaces of the Father of the Fiumara; and they stare when told that these massive buildings are not kusúr but kubúr (tombs). "I dare say it is all one (kulloh wahid) to the owner", said a Voltairian hand, when the words of truth were announced to him. Here the loculi in the several stages were easily cleared out; they had been ransacked before, and they supplied only a few bones and shreds of mummy cloth. A calvaria (No. 1), however, and the larger thigh-bone, with attachments of dried muscles, were found in the upper story by one of the Fellahs. From another and a neighbouring tomb-tower, they brought calvaria No. 2, which evidently belongs to an elderly and masculine person, of decidedly unpleasant propensities. He is, in fact, a fit companion for No. 1.

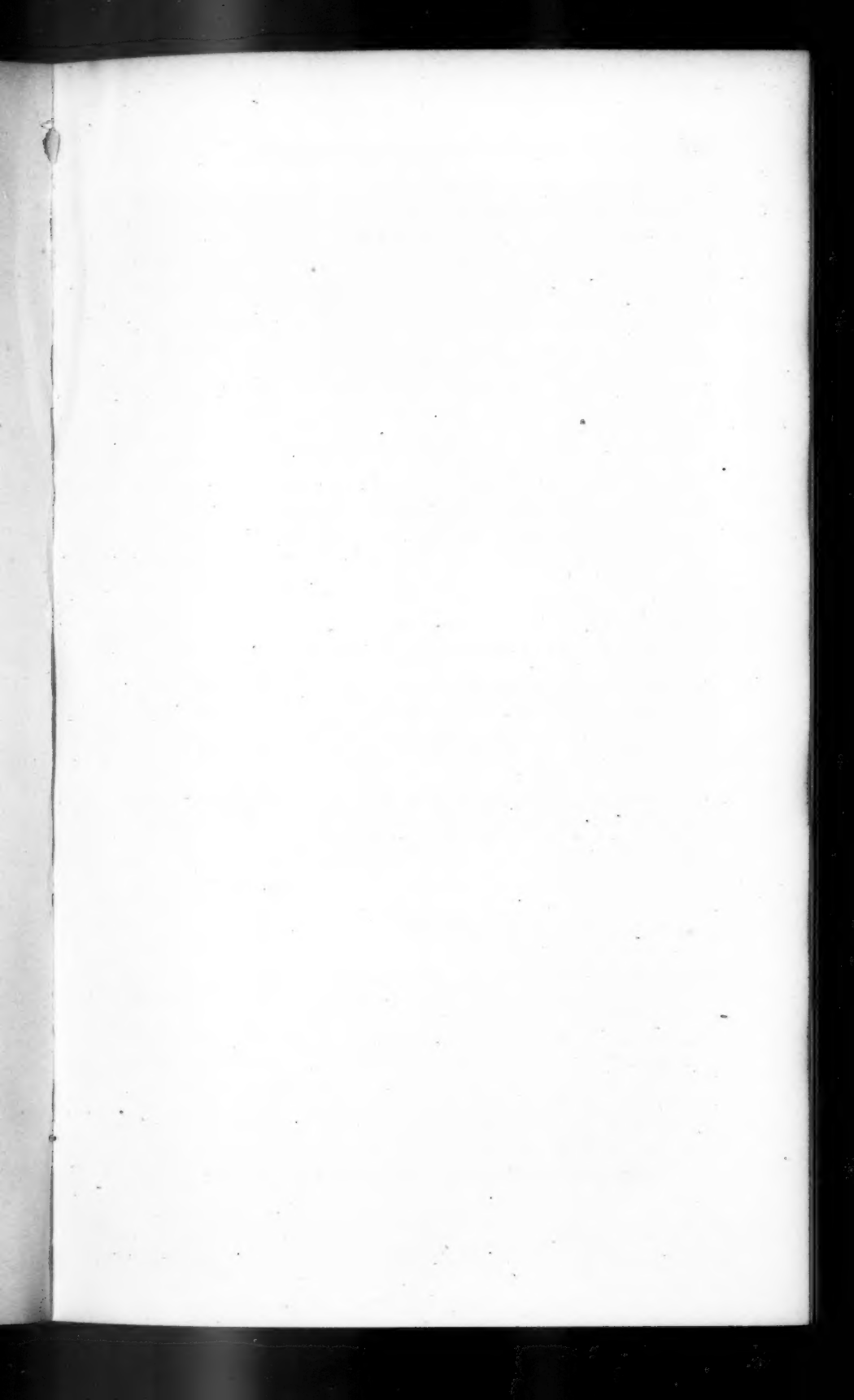
The rest of the collection came from the adjacent ruins. Calvaria No. 3, pierced near the suture, contained a greater number of olive-stones than the rest: can this peculiar process have been adopted in order to show the extent of the owners' possessions? No. 4 is the head of a young girl, and displays all the peculiarities of the modern Syrian cranium—it can hardly have been buried many years ago. No. 5 looks as if it had been compressed behind after burial; but it is distinctly of the old Syrian type, whilst even the solidity cannot be considered abnormal. As a rule, in these countries the oldest calvariæ are the thickest, and similarly the largest building stones are the oldest. No. 6 is also evidently distorted by pressure to the proper right. No. 7 is apparently modern, and its fragility contrasts with No. 5; the peculiarity in the orbits of the eyes is not to be noticed in other heads.

I then applied the hands to a plain mound, lying about a hundred yards to the south of the largest tomb-tower. It offered a tempting resemblance to the undulations of ground which cover the complicated chambered catacombs already laid open, and into one of which, some few years ago, a camel fell, the roof having given way. Three shafts were sunk in the slopes of the barrow, and four men were told off to each. The first four feet passed through hardened surface-soil, and a loose conglomerate

of pebbles rolled down from the Jebel Mintár (the Look-out Mountain) upon whose lowest folds we stood. Then came lumps of snow-white gypsum mortar, which gradually formed a stratum also four feet deep. It appeared to be artificial, but all the hands agreed that it was not. This *fouille* was abandoned, as time pressed us hard.

The third attempt was made at a spot to the north of, and next to the largest tomb-tower. Here a skeleton square of large blocks, containing an area that corresponded with the nearest building, and ranged in line with it, suggested something below. After three feet of the usual surface soil, the pick struck upon three large unworked stones, firmly embedded in mortar, and disposed in tripod shape. The labourers declared that we had come upon the foundations of a house: we persevered, however, to a total of nine feet six inches, and presently, on the west of the tripod, appeared a semicircle of cut stone, like the curb of a well. The contents were pure sand—in fact, the Desert drift, mixed with fragments of coarse and heavy pottery, some light brown, others yellowish, with lumps of gypsum lime and bits of well preserved charcoal. The colour of the arenaceous matter was at first pale ruddy, as if affected by damp; but, after ten minutes' exposure to sun and air, it became dull white, and it was easily sprayed by the wind like that around us. The shape of the hollow below the half rim was that of a Florence flask—in fact, the Algurian silos and Morocco matamors, which are extensively found in this part of Syria, and which, in places like the Tell Shaykh Abdullah, near Hasyah and the Khan Shamsín,* between it and Hums, occupy the greater part of a hill. None, however, are equal to the immense excavations near Bayt Jibrin and Dary i Dubbán, which, despite their Greek crosses and Cufic inscriptions, were believed by many travellers to be "Horite dwellings". But, judging from its position, this was probably an old cistern, filled by the drainage of the roof. Ancient Palmyra, which I estimate to have been at least nine miles in circumference, without including the outlying tomb-towers extending in a broken line from the north-east to the south-west, could not have been adequately supplied by the two streamlets of a water resembling that of Harrogate, or by such an aqueduct as that whose ruins are still visible. The Wady-el-Sayl (Valley of the Fiumara), which separated the monumental from the popular city, is a mere nullah, generally bone-dry, sometimes a raging torrent; and the disforestation of the hills to the north and west has doubtless reduced it to its present state. The depressed site of the great depôt, upon the very threshold of the Dau, or Wilderness, upon the shore edge

* The maps are in the habit of calling this place "Shimsán".





BUST OF ZENOBIA (?)

in the collection of

M. PERETIÉ OF BAYRUT.

where the sandy sea breaks against the furthest headlands off-setting from the Anti-Libanus, suggests the extensive use of cisterns and wells. And these will be required again—the world has not yet heard the last of Palmyra as a half-way house between the Mediterranean and Hindostan.

My fourth and last attempt was to pierce into a heap to the west of No. 3. Here I directed the men to sink a shaft five feet deep, and then to tunnel under the loose stones which lay upon the surface. The dirt was, as usual, superficial alluvium and gypseous lime. Presently, however, during our absence, the workmen came upon two oval slabs of soft limestone, almost like chalk, each with its kit-cat in alt-relief. One was a man, with straight features, short curly beard, and hair disposed as appears to have been the fashion for both sexes, in three circular rolls; it might have been a priest had there been a sign of tonsure—I have, however, been unable to determine the period at which tonsure prevailed throughout these regions. The style of coiffure is frequently seen in heads brought from Palmyra. The other was a feminine bust, with features of a type so exaggerated as to resemble the negro; both being too debased to deserve transport, they were left upon the ground. A third and similar work of art was brought, but the head had been removed.

On the next day, the villagers exhibited a fourth slab of the same kind, but they would not show the place of their *trouvaille*. This specimen had a double inscription, the incised characters being stained with a red vivid as vermilion, and between them was a larger head, with a smaller on its proper left. This hideous work of art was secured for M. Peretié, Dragoman of the French Consulate-General, Bayrout. That well-known collector has a bust, which possibly represents Zenobia: the material is terra cotta; the ornaments are numerous and peculiar; and the general style of the workmanship will be understood from the illustration, the latter taken from a photograph.

The remnants of statuary which we found at Palmyra were of two styles: the one above described native and barbarous; the other classical, or rather subclassical. The type may be judged from the tesserae, and most of the tomb-towers probably had over the entrance, or in niches disposed at various altitudes, the full-length figure reclining upon a couch, and propped upon the left elbow. In all cases, the heads have been knocked off by the iconoclastic barbarians who conquered the land; but sufficient of the members and of the drapery remains to show that the workmanship was very far superior to the indigenous articles. Specimens of Palmyran art are to be found almost everywhere in Northern Syria. More than one figure is rare.

I have seen, however, several groups: the most remarkable was that of a woman carrying a well grown child upon the left shoulder. Both are clad in the plaited clothing, which also appears to have been *à la mode*, and the mother's front hair is dressed in three horizontal lines, with the rest pulled back. One of the most pleasing figures is an alt-relief in the house of my excellent friend, M. F. Bambino, Vice-Consul of France for Hums and Hamah. In the adjoining illustration, the hair is drawn off the face, and the features are somewhat Grecian.

This semi-barbarism of art seems to be the case in Syria and Palestine generally; Cyprus, on the other hand, as General Cesnola and Mr. Lang have proved, yields terra cottas, mostly heads, busts, and full-length figures, which in beauty and expression are purely Grecian. A marble Cupid, sent to Paris before the war, showed the finest chiseling. Unfortunately, the savage who disinterred it at Bayrout smashed the features; and, when told that he had spoilt his property, proposed to restore it by means of a stone-cutter from the bazaar. The gigantic marble statue of a woman, seated upon a chair, with a sphynx at her left, still lying in a back street of Ba'albek, is also Greek in style and dress, but the proportions are poor; in fact, the finest Greek art never seems to have strayed far from the shores of the Mediterranean.

Umar Bey, a Hungarian officer, who was stationed for some months at Palmyra, in command of the troops, made a large collection of clay tesserae, which here seem to represent our "tokens". He kindly allowed me to take notes of them. I did not, however, copy the inscriptions, knowing that he intended them for his father-in-law, M. Mordtmann, the archaeologist.

The forms greatly vary, being square, round, oblong, crescent-shaped, semi-circular, triangular, pyriform, rhomboid, and jug-shaped. Some have three plain lines, and the fourth or uppermost, a waving outline. They are mostly of plain, yellowish clay; some bear traces of a purple colour, and a circular tessera is half red half black.

The characteristic obverse is the reclining woman before mentioned, raised in tolerable relief and facing to the left. Sometimes, there are two, three, and even four figures, resting upon a couch more or less solid. Those with inscriptions below are rare, and, of course, more valuable. On the proper right of the figure there is often a vine, realistically or conventionally treated, either with leaves or with mere whorls like exaggerated tendrils. Some have a bird placed above the figure; others a sacellum showing a human shape, in an oval raised upon a circle. That the figure enclosed in the sacellum represents the Yoni I have no doubt whatever. Let it be compared with Layard's



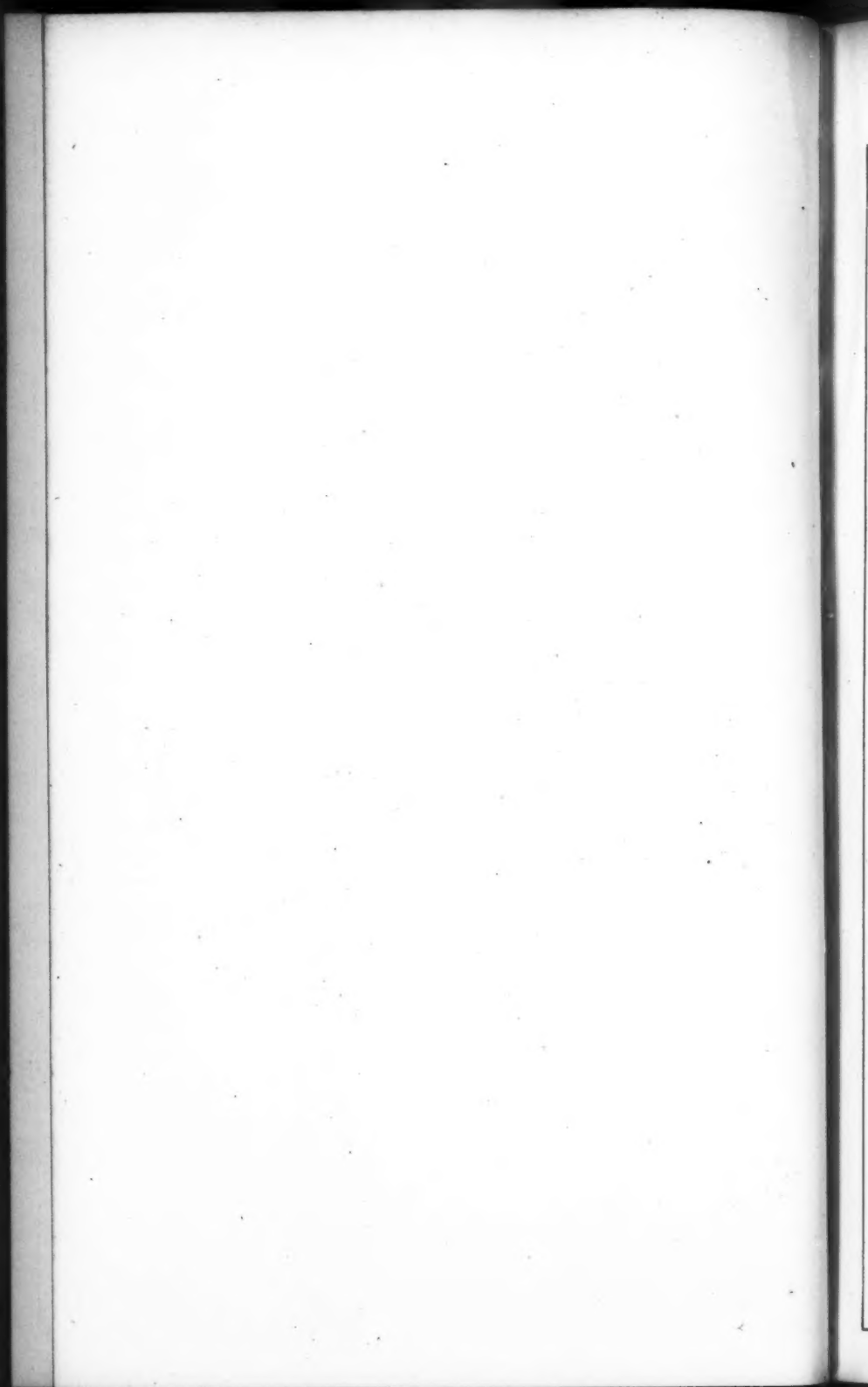
PALMYRENE FIGURE

From the Collection of Mr. F. Bambino.



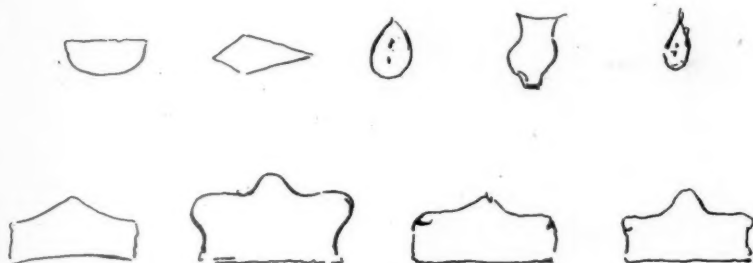
PALMYRENE MOTHER AND CHILD

from Ditto.



VARIOUS SHAPES OF TESSERÆ

From Collection of Umar Bey.



VARIOUS FIGURES ON TESSERÆ

From Ditto.



Sacellum



*Sacellum
on pillar*



*Bull's head
Crescent & Stars*



*Trefoil shaped
Ornament*



*Head
like that at
Rakhlah.*



Crescent shaped Tesserae



*The latter contains
the word Bar,
son of.*

Egyptian seal ("Nineveh and Babylon", p. 156), representing the god Horus, by the Greeks mis-called Harpocrates, seated upon the mystic lotus, in adoration of "Havah", the Great Mother of all living.

The reverses of these tesserae are treated in many ways. The following are the principal:

Two persons reclining upon a couch (as in the obverse).

Two figures kneeling before a smaller, with a vase above the pair.

Two figures, one tall, the other short.

Two figures with a sacrificial altar between: there are many specimens of this reverse; sometimes there is a bust enclosed in an oval above them, at other times this is wanted.

Two figures, with one large and one small vase.

One figure standing.

Two or three busts with the tall head-dress: a very common form; sometimes two stars are disposed about the busts.

A head, with two sacella and Yoni, each inverted upon a column.

A wreath (of ghár or laurel?), a bust, and two sacella, like the above.

A spreading tree, not unlike the alphabet, called El Mushajjar, which resembles a palm branch more or less stripped, and planted upright.

A cup.

A wreath enclosing a sacellum.

A trefoil-shaped ornament.

The Baal figures are, of course, common, especially the following:

Head and spike-like rays. R. Couchant bull, facing to right.

Ditto, with crescent and star under it.

Head and wavy hair, like the sculptured head at Rakhleh ruin. R. Sacellum and standing figure.

Baal and Ashtarah, artistically treated. R. Head of woman.

Two bulls' heads meeting at an angle of 45°, with a star above and below, and a crescent opposite the horns.

Bull's head, and ball (sun or star?) between the horns.

R. Eagle.

Bull's and horse's heads. R. Inscription.

Bull with high hump like the zebu. R. Wheel and eight spokes.*

Man facing right; head crowned with seven spike-like rays.

R. Bust.

* I found this emblem well carved on basalt at Sanamayn, south of Damascus, and believe it to allude to the local deity, Agathe Tykhe—in fact, the wheel of fortune.

Standing figure. R. Sun and stars (lozenge-shaped tessera).

Head and crown of rays facing right, under it eagle. R. Serpent (tessera half red and half black).

Two figures on throne and two standing. R. Three pine cones (?); eagle and star below.

Spread eagle. R. Umbo and inscription. N.B.—This umbo is a phallic emblem, which appears sometimes on one side, sometimes on both. It is, in fact, the Chemosh or Priapic idol of Moab, a "gerundert stein". This well known figure naturally leads me to notice the last work by my learned friend Dr. Beke ("The Idol in Horeb: Evidence that the Golden Image at Mount Sinai is a Cone and not a Calf." London: Tinsleys, 1871). Dr. Beke (p. 4) is distinctly of opinion that the golden cone was an image of the flame seen by Moses in the burning bush, and of the fire in which the Eternal had descended upon Sinai; and he rejects the allegations of a correspondent (p. 34), which makes him impute to the Israelities the "obscene phallic worship". I cannot, however, but believe that, like cannibalism, infanticism, and perhaps sati (suttee), the adoration of the Lingam-Yoni, has been, at various ages of the world, universal, typifying, by a gross material image, the reproductive powers of Nature. The subject is far too extensive for anything but casual mention in these pages; but no one will forget the Crux Ansata of Egypt, or the Lingam-Yoni of Ancient and Modern India; and upon this subject I venture to recommend an excellent work by Dr. Thomas Inman, "Ancient Faiths embodied in Ancient Names" (London: Trübner, 1868). It abounds in information of the highest interest; and, probably on account of its freedom from prejudice, it has been damned with faint praise by the many who reviewed it.

Eagle not spread. R. A tick resembling the Brazilian carapato. N.B.—One of the leaden coins bears a bust and a carapato on the reverse.

Human figures are, perhaps, the most common; *e. g.*,

Bust with tall coiffure, facing to right. R. Standing figure.

Head between two garlands on crescent-shaped tessera.

Bust. R. plain.

Bust. R. Sun (circle) and stars (lozenge-shaped tessera).

Head and two stars on quarter moon. R. plain.

Bust facing to front. R. Ladder of five rungs and stars. This R. also occurs on pyriform tesserae.

Vase and hand.* R. Flower-pot (?) and inscription.

Head. R. Head and sceptre.

* This might be Jewish; the hand and the manna cup, especially the former, are favourite emblems.

Head. R. Head (pyriform tessera).

Head of Roman type facing left. R. Inscription.

Standing figure of man. R. plain.

Woman and vine. R. plain (pyriform).

Hand in square. R. Four cones joined at bases.

There are various figures of animals; *e.g.*,

Two horses. R. Two fishes.

Gazelle. R. Small Genius and two stars. N.B.—The gazelle often occurs upon the smaller Palmyran coinage.

Ibex. R. (?)

Lion pulling down gazelle. R. One figure sitting upon a chair, the other standing.

Lion. R. Bee on flower (?)

Winged griffin. R. Two bulls and inscription.

Scorpion on rhomboidal tessera. R. Lyre-shaped figure.

The other figures are chiefly:

Cornucopia. R. plain.

Vine-leaves. R. plain.

Large and small circles. R. plain.

Two vases and two stars. R. Inscription.

Two vases, one large, the other small. R. plain.

Eccentric figure found upon many. The inscribed character is a contraction of "bar", son of —. I presume that the object denotes an altar.

Depressed sacellum and figure inside. R. plain.

Two large stars and one small. R. Sacellum.

Semi-circle and star. R. Inscription.

Wheel on conical seal (Agathe Tykhe?)

The principal beads are:

Long oval with eleven or twelve ribs; the colours, green, blue, and white, appear at both ends.

Coarse blue glazed china bead.

Glass, red on white ground.

Fine purple glass, like garnet.

Blue glass, bright and good.

Long oval black glass, with three lateral and deeply indented white bands.

Agate beads, small.

Bead of pink madrepore (unbored).

Imitation shell bead.

Bead in shape of phallic umbo.

The collection also contained a small stone weight, and many coins, some of them of lead. The most curious were those which bear Moslem inscriptions, with heads of men and of lions.

My friend and fellow traveller, Mr. Charles F. Tyrwhitt Drake, also made a collection of Palmyran antiquities, which he

will himself describe. There is no better field for inquiry than these grand old ruins. As has been shown, labour is plentiful and cheap; and I will answer for the civility and kindness of Shaykh Fâris, who now protects the British-Baghdad post. A month might be spent to great advantage at Tadmor. Future travellers are advised to carry with them a crowbar, a rope-ladder, a plank or two, and cords with hooks, so as to explore the upper stories of the tomb-towers which may hitherto have escaped ransacking; and I should advise them to dig, not at the south-west of the ruins where we did, but to the north-east, where a large blot of dark ashen ground, scattered over with dwarf tumuli, denotes, according to our Fellahin informants, the Siyaghah, or gold and silversmiths' bazar. When searching ruins, the explorer will do well to remember General Cesnola's rule; namely, to dig along the inner walls, not in the centre. The result, in Cyprus at least, left nothing to be desired.

I will now make way for my friend Dr. Carter Blake, who requires no introduction from me. And I have the honour to return my best thanks for the patience and perseverance with which you have listened to a somewhat dull paper.

NOTES on HUMAN REMAINS from PALMYRA. By C. CARTER BLAKE, Doct. Sci., F.G.S., Hon. Mem. A. I., Lecturer on Comparative Anatomy and Zoology, Westminster Hospital. With an Illustration by GEORGE BUSK, F.R.S., President of the Royal College of Surgeons.

CAPTAIN BURTON has done me the honour to place in my hands, for description, some of the valuable human remains which he has derived from Palmyra. The fact that these relics have only been in my possession since the 10th of the month will, I hope, induce the members of the Institute to grant me some indulgence in the description.

In order that the ancient skulls from Palmyra may be carefully considered, I shall commence my description with a short conspectus of the characters of the typical modern Syrian skull of the present day, marked No. 4 on the specimen.

Skull No. 4.—It is ovately orthocephalic, its greatest length being 16.5, and its greatest breadth 12.7, the cephalic index being consequently .76. With largely rounded parietal tubers, not so prominent, however, as in the young Hindû of the same age (about nine years), the frontal region is remarkably square, and well developed; the jaws are orthognathic, and the malar region is delicate. An equable curved line extends from a spot, at about one-third of the longitudinal diameter of the frontal bone, to the median portion of the supraoccipital. The lower

portion of the occipital bone is largely developed, and proceeds gently to the foramen. Whilst there is no indication of *probole*, the transverse union of the supraoccipital bones is well shown. The base of the skull exhibits few points of muscular attachment. The jugular foramen is largest on the left side. The teeth in place are incisors $\frac{4}{0}$ can.

$\frac{1-1}{0-0}$ P. $\frac{2-2}{0-0}$. The first molar, as such it may be called, is in the alveolus, and would have proceeded to cut the gum sooner on the left than on the right side. The remarkably small and delicate palate would, in after life, have left but little room for the adequate development of the premolar and molar series. While slight and gracefully arched pterygoid processes extended laterally, the junction between the basioccipital and basisphenoid bones is not nearly closed. The nasal spine is prominent, and the nasal bones well developed and slightly arched. The suborbital foramina are normal. The mastoids are very small, and there are no traces of paroccipital (jugular) or of pneumatic processes.

Generally it may be said that the present skull, with its graceful contours, is one of the "prettiest" that the comparative anthropologist might examine; and that, in its general form and shape, it can be pronounced to be as distinct in form from the archaic or prehistoric Palmyrene skulls as it is possible to conceive. That these characters are not such as are merely dependent on sex and age, it will be the object of the comparison I am about to institute conclusively to show; and I believe that this comparison will be borne out by the investigation of another and larger series of Syrian skulls, which, through the kindness of Captain Burton, and with your permission, I propose this session to describe.

The consideration of Syrian and so-called Phœnician skulls is a subject which will always be attended with some difficulty. The dearth of literature on the subject enables me to refer to comparatively few authorities. Of these I shall briefly mention Nott and Gliddon, "Indigenous Races of the Earth" (part written by Dr. J. Aitken Meigs), p. 314; Marichard and Pruner Bey, "Les Carthaginois en France," 8vo, Montpellier, 1870; Barnard Davis, "Thesaurus Craniorum" (description of No. 1174, p. 86); Nicolucci, "Di un antico cranio fenico rinvenuto nelle Necropoli di Tharros in Sardegna," 4to, Turin, 1863; and the comprehensive and elegant memoir of the last named author in *Bulletins de la Société d'Anthropologie*, v. 703. A perusal of these works shows that the characters of the so-called Phœnician or Syrian branch of the Semitic race have been adequately discussed by far more eminent anthropologists than myself, and I

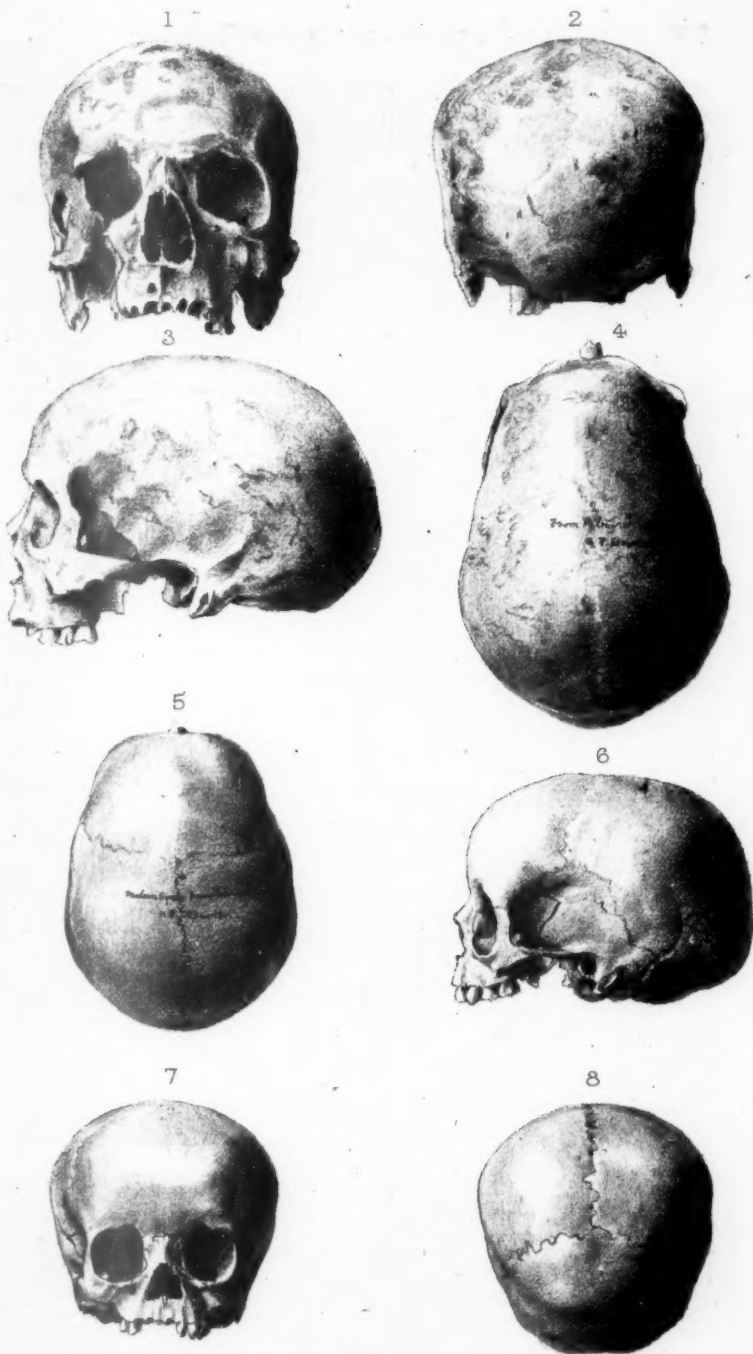
therefore have ventured to presuppose your thorough acquaintance with them. I shall adopt the system of measurement of Barnard Davis (with Busk's instrument), and the nomenclature of Professor Huxley.

I now turn to the description of the skulls from Palmyra, the *gisement* of which has been already described by Captain Burton.

Skull No. 1.—This remarkably thick calvaria comprehends the whole frontal bone and large portions of the parietals and nasals. The frontal suture has been open until a late period of life, as is shown by traces near the coronal suture and also on the glabella. The coronal suture is deeply denticulated, the greatest amount of serration being at the spot common in most Negro and some ancient British skulls, across the insertion of the *temporalis* muscle. The size of the individual must have been enormous. The nasal bones, or what little remains of them, do not indicate that the nose was large, and the supranasal notch is remarkably shallow. The calvaria is equally arched. It is subject of regret that the point of junction between the parietal and supraoccipital bones does not exist, by reason of the fractured condition of the parietals. The transverse diameter across the frontal bone could not have been less than 12·5 centimètres, and the degree to which the frontal arch is vaulted corresponds to this enormous dimension. Part of this great breadth is possibly due to the partially open condition of the frontal suture; but I think that this will scarcely account for more than the breadth. The frontal bone measures in circumference along the periphery, from the nasal to the coronal suture, 12·5 centimètres. The orbits were well arched, and the development of the superciliary ridges was slight. The skull, in fact, appears to have belonged to a very large and fine dolichocephalic individual; and it will be a subject of much regret that so little of the skull is presented to us, that I am consequently unable to include its precise dimensions in the table of measurements.

Skull No. 2.—This extremely large mecistocephalic skull accords in its chief characters, as Captain Burton informs me, with those of the existing Phœnician. With a cephalic index of 70, it shows traces of having belonged to an exceptionally strong and powerful male, as shown by the largely developed superciliary ridges and mastoid processes, and by the general heavy and athletic contours of the cranium.

Comparison of this skull with those of the Sémite Phénicien figured in Plate II of Marichard and Pruner Bey's memoir shows agreement in nearly every essential aspect; and the characters which my excellent friend (now, I believe, still in ill health in Switzerland) has pointed out as distinctive of the Phœnician



Semite skull are here strikingly manifest. For he says: "*Le palais est parabolique, et excessivement profond, sans évasement.*"

This character of the deeply vaulted and capacious palate is perhaps the most striking fact connected with the present skull. The large pterygoid and hamular processes, the extraordinary development of the occipital region, and especially of the *probole*; the peculiar flattening of the skull at the parietal bones above and behind the mastoid region; the prominent parietal tubers, and the generally "long drawn out" aspect of the skull; remind the student at first sight almost of the Negro calvarium. Possibly, on the application of Rokitansky's law, some of this great absolute length might have been due to the early and premature closing of the coronal suture. I am far from denying this theory (which I have elsewhere strongly supported*), and which would probably receive the advocacy of Dr. Barnard Davis;† but I would point out, that the obliteration of all the sutures has proceeded to nearly the same extent all over the skull, and that the coronal, sagittal, lambdoid, sphenoidal, and temporal sutures, are all nearly closed to the same degree. The head, as in Skull No. 1, is equably and ovoidly curved from the forehead to the lambdoid suture, from whence, after a manifest bulge of the upper part of the supraoccipital bone, the occiput shelves towards the foramen in a line which may be roughly said to be parallel with the alveoli. The foramen is large, broad, and rounded; the condyles are normal. The post-condyloid depressions are remarkably deep, with slight exostosis on the left side. The glenoid cavities are deeply excavated. There are small but well developed paroccipitals, but no "pneumatic" processes. The orbits are squared and depressed at the outer inferior angles. The suprahasal notch is deep; the superciliaries prominent; and the forehead singularly flat towards the external angle. The teeth in position are only those of the molar and premolar series. The powerful malar bones must have rendered the physiognomy of the individual exceedingly severe. The teeth are large and strong, and do not indicate much caries or wear; they have dropped out since death. The alisphenoido-parietal suture is exceedingly long.

It will be a question whether the extreme length of this skull is a character of race or an individual character. The conformation of one of the lower jaws I shall show to you, however, appears conclusively to demonstrate that one other individual, at least, possessed the character of extreme cranial length and of great narrowness. In the skulls figured by Professor Busk

* "Memoirs of the Anthropological Society of London", ii, 79.

† "Thesaurus Craniorum", p. 49.

‡ "Memoirs of the Anthropological Society of London", ii, 281.

(Platynecemic Men in Denbighshire, "Trans. Ethno. Society", 1870, p. 467), "the absolute horizontality of the plane of the subcranial portion of the occipital bone" is pointed out as a character of one of the skulls from Cefn, and to a certain extent in the Borris skull of Professor Huxley ("Prehistoric Remains of Caithness", p. 125, figs. 60, 61). The same character is present in this Palmyrene skull to a great extent; but the latter has no relation whatever to these "tapinocephalic" skulls in its measurements. The researches of Dr. Aitken Meigs on the form of the occiput, illustrate how the same features of the occiput are often presented by a Negro, an Australian, a "River-Bed", or, as in the present case, a Syrian skull.

The extremely brachycephalic character of some of the more modern Syrian skulls which Captain Burton has brought from other districts, when contrasted with the length and peculiar aspect of the present specimen, leads the observer to two conclusions at least. The present skull accords with those of the Phœnicians, as figured by Pruner Bey, and differs *toto cœlo* from the skulls of much of the population of Syria at the present day, and within the last thousand years. There are also slight resemblances at least between this skull and those of some of the Guanches exhaustively described by Dr. Barnard Davis ("Thesaurus Craniorum", pp. 189-193). How far the Phœnicians and Atlantean races were connected, I shall not now inquire, further than to refer to the opinions of Dr. Gustaf Kombst; and I would merely at present adhere to the verdict of Dr. Barnard Davis and myself, that the Guanches of Teneriffe appear to be *sui generis* ("Journ. Anthropol. Soc.", II, cccxxiii).

Skull No. 3.—The calvarium before us is one which probably has belonged to an aged individual, as shown by the closing of the sutures; whilst it differs entirely from No. 2 in proportions, it presents characters which recal some of its proportions. The occiput, however, is full and round. The coronal suture is slightly denticulated, but is nearly closed; the sagittal is entirely so, with a tendency to the formation of a slight *rainure* on its hinder portion. The superciliary ridges are absent; the supranasal notch has not been deep; and the forehead is fairly arched and fully rounded. It is, of course, to be regretted that the facial bones are entirely absent. The malar bone on the left side has apparently been cut through, probably since death. The aperture in the parietal bone is also a "pick mark." The mastoids are small, and there are no traces of paroccipital or of pneumatic processes. The basisphenoid bone is large and broad. It is possible that this skull may have belonged to a female of middle or advanced age, but this is only a conjecture.

Skull No. 4.—This skull has been already described above.

Skull No. 5.—This calvaria is merely the occipital and parietal bones of a large, dolichocephalic individual, closely resembling No. 3 in general contour. The sutures are all open and highly denticulated. The occipital bone shows a large, elongated and well developed *probole*. The ridges for the attachment of muscles are not pronounced excessively. The greatest breadth has been 14 centimètres.

Skull No. 6.—This is a large and fractured calvaria, of which the broken condition precludes that any accurate measurements could be taken. The coronal suture (since death) has slightly bulged, probably owing to the presence of mud or other moist matter in the skull after death. The frontal sinuses have been large, and the superciliary ridges prominent. The frontals are equably arched, and there are distinct and large frontal bosses. The contour is ovoid as far as the edge of the lambdoid suture. The alisphenoido-parietal suture is large and wide. The skull is broad at the parietal bones, with an equable rate of bulging over its whole surface, with the exception of the coronal suture. The auditory foramina are large. The arterial impressions on the inner table of the skull are remarkably deep and profoundly excavated. It is, of course, impossible to measure this calvaria accurately.

Skull No. 7.—The calvaria of a young individual, probably about seven years old. The present specimen can be advantageously compared with the modern Syrian girl's skull (No. 4). More prognathous than it, it is less ovate in its contour, and does not present that equable *tournure* of physiognomy which characterises the existing inhabitants of the district. The malar bones are remarkably small and weak, and the aperture for the temporal muscle very small compared with the typical Syrian, with the European of similar age, and with the Negro. The present skull exhibits many points which illustrate widely different race distinctions, which even in the young can be easily estimated. The maxillary bone is fairly prognathous; the palate is deeply vaulted, and the molar series, as indicated by their alveoli, are large; the palatal and traces of the intermaxillary sutures are present. The suture between the basioccipital and basisphenoid is perfectly open.

Skull No. 8.—This is merely a broken fragment of frontal bone, which appears to present some singular characters. Its fragmentary condition, of course, precludes any elaborate description of such a broken specimen. The superciliary ridges have been large; to a greater extent, in fact, than any of the other specimens. The edge of the frontal bone at the coronal suture has been preserved, and shows deep denticulations. The frontal bone appears to have been singularly depressed and low.

The frontal sinuses have been large. It is to be regretted that the junction of the sagittal and coronal sutures being absent, it is impossible to predict the size and shape of this very low frontal bone.

The three lower jaws, marked respectively α , β , γ , are all those of large and powerful males. In α and γ , many teeth are in place; while in β , which has belonged to an older individual, the teeth have been shed during life, and the alveolus, answering to m. 1 and m. 2, on the right hand side, is absorbed. All these jaws exhibit the same characters of largely developed coronoid processes, with shallow sigmoid notches in β and γ , whilst in α the more normal formation exists. The degree of wearing of the molar teeth appears to denote a hard diet, and might be accounted for on the assumption of the much consumption of parched corn by the Bedawi Arabs. The equable periphery and vertical widely exerted condyles of the jaw marked by γ , appear to denote that it belonged to a type of skull wholly distinct from those labelled α and β . The latter, with their comparatively greater amount of obtuseness in the angle of the jaw, appear to have belonged to shorter headed individuals than the jaw γ ; and I have little hesitation in affirming that the laws of correlation entitle us to affirm, although none of these jaws was found in juxtaposition with a skull, that the jaw γ belonged to an individual having the same cranial type as that which belonged to the mecistocephalic owner of skull No. 2.

Femur.—This very long bone measures 51.50 centimètres in length; it is covered with integument which prevents more precise measurement.

Tibia.—This measures 41.0 centimètres long. The proportion of tibia to femur taking the latter as = 100 was 79. These figures are sufficient to show the stature of the present race.

A very large mass of scattered bones is also preserved in the present collection. These chiefly consist of young individuals, among which there are accidentally strewn a few bones of the gazâl, (*Antilope dorcas*). There are numerous dorsal and some cervical vertebræ, also many fragments of lumbar vertebræ and one young child's lumbar region, with iliac bones attached.

There are two mummy hands, one left, which exhibits four fingers open, the thumb being broken away, the other on which the right fingers are contracted. In both these cases the fingers are delicate, tapering and long, and the nails have been slender. There is also a right and left foot, one nearly complete, in the case of mummy cloth, and one in which there are preserved five metatarsal bones alone. These feet are of small and delicate size. None of these bones of extremities accord in dimensions

with those of the larger skulls, and they are most probably those of females,

That a very large and exceptionally tall race of men existed at Palmyra at an early period of history, there can now be little doubt. How far the legends of gigantic inhabitants of Syria, may have originated from the evident fact that the prehistoric Palmyrans were of stature probably far exceeding that of the comparatively small Hebrews, I must leave to the student of Shemitic history. It is my duty merely to describe the evidences which are now upon the table, but I cannot resist calling your attention to the fact that amongst the relics now discovered, I see none which accords in cranial characters with the features of the Hebrew race, as they have been described to us by comparative anthropologists. The peoples who inhabited the oasis of Tadmor at the period when these mummies were interred, do not appear to have been of Jewish origin. At least the negative evidence must stand for the present.

Table of Measurements, according to Dr. Barnard Davis's System, in Centimètres.

	A. Internal capacity.	B. Circumference.	C. Fronto-occipital arc.	D. Intermastoid arc.	E. Length.	F. Breadth.	G. Height.	H. Length of face.	I. Breadth of face.	J. Prop. of Breadth to Length.	K. Prop. of Height to Length.
1. Broken calvaria
2. Mecistocephale	56"	40"	39.5	20.8	14.6	12.4	..	..	.70	.59
3. Orthocephale	50"	35.5	34"	17.1	13.1	11.1	..	..	.76	.61
4. Modern girl	45"	34"	32"	16.5	12.7	10.8	..	9.10	.76	.61
5. Broken calvaria	14.0	..	..	..	..	..
6. " "
7. " "
8. " frontal

P.S.—On Dec. 22nd, I received a note from M. A. de Quatrefages, Professor of Anthropology at the Paris Museum, in which he suggests to me that the Palmyrene skulls, or some at least of them, may belong to the Chaldean stock. "This is in part characterised by the absence of the occipital *lamæ* and crests, and by the continuity of the curve above and below the latter." This hint may be of value, but at present the materials for comparison are very small.

DISCUSSION.

Mr. AVERY wished to inquire what was the probable size of the persons whose remains had been remarked upon, and whether they exceeded the ordinary stature of man. Races of men of enormous

size were said to have been found in Syria at the time of the Hebrew invasion ; and Porter had professed to find remains of their dwellings in what was Ancient Bashan. Are any remains of these races now in existence? He also inquired whether the present inhabitants of the ancient Palmyra, or the surrounding district, appeared to be the descendants of those who built that city. It was a curious fact that spasmodic civilisation had in that part of Asia arisen, flourished for awhile, and then utterly disappeared. He should like to know if there were among the now existing races any apparent fitness for, or endeavours after, a higher state of civilisation than they now enjoyed, or whether the ancient civilisers had entirely passed away.

Captain BURTON replied in a few words. He did not attach the least importance to the modern legends about gigantic races in Ancient Syria and Palestine. Mr. Porter's theories and assertions have long ago been disposed of. The present tenants of Palmyra are simply Fellahin, reclaimed Bedawin. Finally, although the ancient civilisation had passed away, he believed that the present race is capable, under favourable circumstances, of taking a high standing.

The meeting then separated.

DEC. 4TH, 1871.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

THE Minutes of the last Meeting were read and confirmed.

The following new members were announced : P. C. SUTHERLAND, Esq., M.D., Surveyor-General, Natal ; JOHN CORDY BURREWS, Esq., F.R.C.S., Mayor of Brighton ; and J. PARK HARRISON, Esq., M.A., Ewhurst, Surrey.

The following presents were announced, and the thanks of the meeting voted to the respective donors :—

FOR THE LIBRARY.

From the AUTHOR.—On the Motions of the Human Foot ; Remarks on the Loss of Muscular Power and Economy in Walking. By James Dowie.

From the ROYAL ACADEMY, Amsterdam.—Verslagen en Mededeelingen der Koninklijke Akademie van Wetenschappen, No. 2, vol. v. Jaarboek do., 1870. Processen-verbaal do., 1870-1.

From the AUTHOR.—Merlin and Arthur. By Scott F. Surtees.

From the AUTHOR.—The Chronology of the World. By J. S. Williams.

From the AUTHOR.—La Race Prussienne. By A. de Quatrefages.

- From the AUTHOR.—*Mysteries of the Vital Element.* By Dr. Robert H. Collyer.
- From the EDITOR.—*The Journal of Psychological Medicine*, vol. v, No. 4. By Dr. W. A. Hammond.
- From the EDITOR.—*Correspondenz-Blatt der Deutschen Gesellschaft für Anthropologie*, etc., June to October 1871.
- From M. ALGLAVE.—*La Revue Scientifique*, No. 22, 1871.
- From the SOCIETY.—*Proceedings of the Geological and Polytechnic Society of the West Riding of Yorkshire*, 1870.
- From the SOCIETY.—*Report of the Leeds Philosophical and Literary Society for 1870-1.*
- From the EDITOR.—*Nature*, to date.
- From the Rev. W. HARPLEY.—*Report and Transactions of the Devonshire Association*, July 1871.

The following paper was read :

On ANTHROPOLOGICAL COLLECTIONS *from the HOLY LAND.* No. II. By Captain R. F. BURTON, F.R.G.S., late H.M.'s Consul at Damascus.

MR. PRESIDENT AND GENTLEMEN,—I propose this evening, with your permission, to resume the description which was begun during our last meeting ; and I may open with remarking upon the favourable reception given to it by the press and the public. This is at once proof and earnest that our study, Anthropology, is growing, and will grow, in general esteem ; and we are encouraged to hope that within a reasonable time it will take rank as the most interesting of all studies. The great problems reserved for Geography to resolve are now few : the Polar Seas ; parts of China and Japan ; the islands of the Indian Ocean ; and a white patch in Africa, which I would willingly darken. But these done, only details will remain, and details can hardly be expected to arouse enthusiasm. With us it is very different ; and the field of discovery is practically unlimited. Every few years open up another chapter of prehistoric lore : with the clue in our hands we can safely thread the labyrinths of antiquity, and we must invert Palgrave's eloquent words, "That speechless past has begun to speak, the lost is no longer the utterly lost, the gone is not gone for ever."

No. 2 Lot.

List of Mr. Rattray's Collection presented to the Anthropological Institute.

28 fragments of skull bones, remarkably thick, and therefore presumed to be of old date.

1 jaw bone and part of a skull ; this appears to be comparatively modern, and may come from the neighbouring Moslem cemetery.

9½ old copper bracelets (aswár).

1 copper pin.

1 fragment of brass bracelet.

2 bits of arm fibulæ.

Part of a buckle.

3 small coins.

15 bits of lachrymatories, the glass being highly iridescent, and of almost the consistency of talc.

4 pieces of old Syrian majolica, the usual type of what was made at Damascus by the Tartars from Kashan, who accompanied the several invading hordes. Hence the fine "Persian tiles" are still called "Hajar Kishân" (for "Kashani"), stone-ware. They may generally be divided into three qualities, according to their age, which in no case can date before A.D. 1400: 1, the best are easily recognised by the bright colours and the glazing, which looks like a plate of glass; 2, the middle class, is inferior, but still good; and 3, the worst, is the modern, showing poor colours and a weak attempt at vitrification. The specimen from the Harem of Jerusalem, which I now exhibit, seems to be of the second class.

1 bead of cornelian (akik).

1 roundish bead of gum, probably Sandarus of the Sinaubar (P. Halipensis?).

1 black bead.

1 green bugle.

1 double bead.

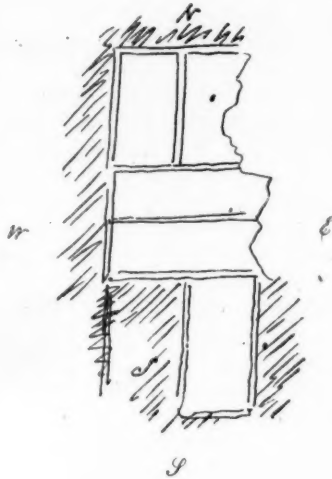
3 blue bugles. These beads should be submitted to some West African merchant of long experience, who can compare them with the "Popo", so highly prized in Western Africa. This spindle-shaped or double cone specimen is ground.

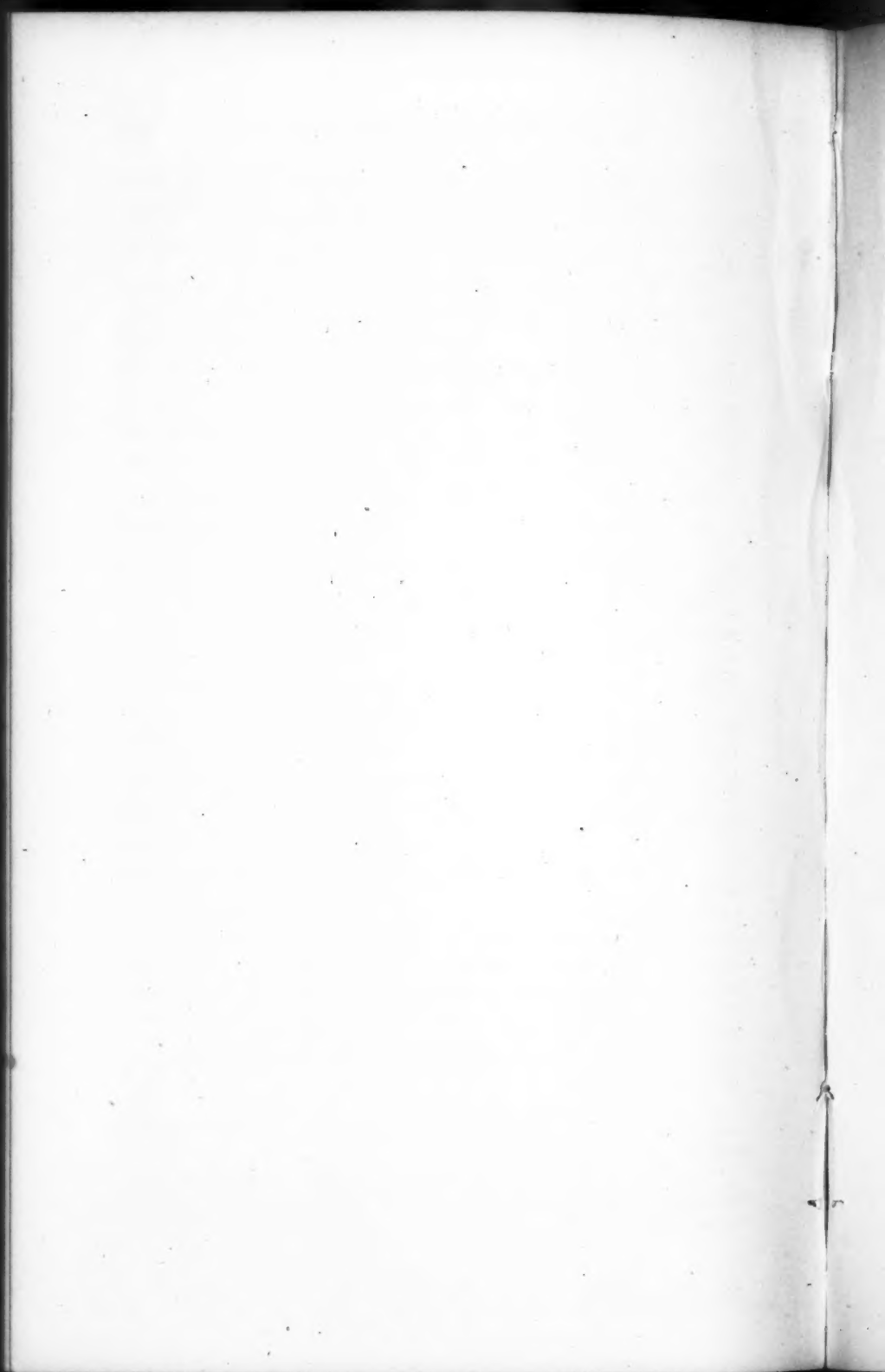
4 beads of sorts.

Mr. John S. Rattray built a house at a place where the eastern slope of the Libanus falls into the Cæle-Syrian Vale, called Sáhib el Zamán (Lord of the Age); in January and February 1870, he happened to open a hollow to the south, which proved to be an artificial cavern, with a shaft or air-hole above, and containing five loculi; two only are shown in the accompanying sketch by Mrs. Rattray. Subjoined is a ground plan of the cave, which faces towards the Buká'a, or Cæle-Syria; the corpse furthest to the west enjoyed a loculus to itself; three compartments had their greater length disposed nearly due north and south, whilst the two others ran from east to west. The heads or feet of those occupying the latter would, therefore, have fronted Meccah, showing that they could not have been Moslems; on the other hand, they may have been Jews, who make the feet front Jerusalem, so that, on arising, the dead may face the Holy City. Each

GROUND PLAN OF MORTUARY CAVERN.

Opened by Mr John Scott Rattray.





body was deposited within six slabs of cut stone. The bones crumbling when exposed to the light, were reburied; but I persuaded Mr. Rattray to dig them up, and to continue his interesting researches. In one of the skulls a tooth was found, but that disappeared.

The Sahib el Zamán represents, according to some, Hezekiah, who is commonly supposed to sleep with his forefathers at Jerusalem. The tomb is in a ruinous state; but it is still visited by votaries, who, wishing to be cured of ague and fever, the plague of Cæle-Syria, bring with them a little frankincense and an abundance of faith, pass one night here, and return to their homes whole. The cemetery around is, doubtless, of high antiquity, and many skeletons have been thrown up when digging the adjacent fields.

A few yards in front of Mr. Rattray's house, and nearer the valley, lies the little village of Karak-Nuh,* the ruin of Noah, and a "splendid ruin" Noah's is. It is inhabited by one family of Roman Catholics, with sundry Maronites and a majority of Mutawalis (Shiah Moslems), who are kept in pretty strict order by Christian Zahlah. This sleepy little Rip van Winkle place, with stone houses, and without trees—they cannot survive the ants and worms—contains the tomb of Noah, which does not, however, bring in as much revenue as its size entitles it to claim. The dimensions are one hundred and four feet ten inches long by eight feet eight inches wide and three feet three inches high. The venerable votary of the vine was, therefore, of nine-pin shape, and hardly so well proportioned as Sittná Hawwá, Our Lady Eve, at Jeddah. The sharp-ridged grave is of masonry, covered *honoris causâ* with the usual ragged green cloth, and the dimensions of the long room, whose length is filled up by the tomb, are ten feet two inches in breadth by eight feet three inches high. Evidently the section of an old aqueduct has been pressed into doing duty as a patriachal grave. Outside there is a small paved court, with a "mihrab" (prayer niche) and a domelet. The place commands a fine view of the luxuriant valley, and is a favourite with those who wish to "smell the air". In the dark store-room of an adjacent house lying south-west of the tomb, Mr. Rattray found the following Latin mortuary inscription, which speaks well for the longevity of the man with many names:†

* There are many Keraks in the country: the most celebrated, perhaps, is that which occupies the site of Kir, an ancient capital of the Moabites, near the lower extremity of the Dead Sea.

† Mr. Rattray also copied, at the tomb of Nabi Shays (Seth, son of Adam), the fragmentary *VETIVS BAGATAN VIXIT ANN.*, which shows that that part of the Anti-Libanus was also occupied by the Romans. The stone, I believe, has lately been destroyed.

CN. IVLIVS L. F. FAB.

RYFVS P. P.

HIC. SITVS EST. VIX.

ANNOS LXXXIV.

Half an hour west of Karak-Núh lies Mu'allakah, meaning the "dependency"—that is to say, suburb (of Zahlah); the word is, in fact, our "hanger", as applied to hanging woods. It is new, as Karak is old, having been built and colonised by the Amír Bashir Shiháb, when that peremptory personage was offended by the Sectarrians who reposed under the shadow of the patriarchal wings, and its mud huts might have sprung up like fungi in a night. The lower part suffers severely from ague and fever, the effect of poplar groves, of superabundant water, and of the barber: the latter sometimes bleeds his two dozen a day, till the place looks as if, after a heroic defence, it had just been taken by storm.

DESCRIPTION of portions of SKULLS from SAHIB EL ZAMÁN (the so-called Cave Tomb of Hezekiah), from MR. RATTRAY'S COLLECTION. By C. CARTER BLAKE, Doct. Sci., F.G.S., Hon. Mem. A. I., Lecturer on Comparative Anatomy, Westminster Hospital.

THE specimens presented by Mr. Rattray, extracted from the tomb of the reputed Hezekiah, are belonging to at least three individuals, all being large and powerful athletic men. The occipital bones are indicative of the existence of three separate individuals, one of whom was large and powerfully athletic, as shown by the enormously hypertrophied condition of the bones, the great thickness of which indicates the existence of a man of large stature, and, to judge by the fractured frontal bone, of low forehead and dolichocephalous skull. That these remains are probably Jewish, the method of interment seems to indicate. That one of the three skulls can be identified with the remains of the Jewish king, or any other especial individual, is of course a matter of widest conjecture; but that they indicate the *débris* of some ancient king, patriarch, or other person of consequence, there can be no doubt.

The lower jaw of a young negro and a fragmentary occipital bone are also found in the Rattray collection. These indicate an individual of about twelve years of age, but in which the negro characters are markedly prominent. The large portion of animal matter still present in the bones shows that they have not long been interred, and the individual was probably alive twenty years ago. The occipital bone is, by its degree of ossification, probably referable to the same individual as the lower jaw belonged to.

No. 3 Lot.

Bones found at Ma'alúlah.

1 jaw bone, with chin much cloven: this "Red Indian" type might belong to a Patagonian.

1 lower jaw and part of calvaria (in two pieces); the distance from the eye orbit to the upper jaw appears abnormally small.

29 fragments of calvaria.

2 teeth.

1 rag of old stuff, apparently everywhere used for sepulture.

The site of this find (Sept. 26, 1870) was at the upland village of Ma'alúlah, distant three hours from the large Greek convent of Saidnáyá. On the left side of the Wady, just below the junction of the Fijj or gorge of Santa Tekla, is the site of a large old necropolis, wayside as usual, upon the lower road to Yabrúd, distant two hours. The tall cliffs of reddish-grey stone, breaking into a chalky white substance, stand perpendicularly at the sky-line, the *débris* below assuming the natural angle; and at the base of the latter are disposed immense masses, shaken down probably by earthquakes. Several of them are pierced for sarcophagi, disposed at different angles, one containing as many as eight; another has rude steps running up to the tomb; whilst a third shows two carved niches, each with two busts and the remnants of an inscription, ENAIIAKEIENI, which should be read in a better light. The bones and rag were found covered with a layer of earth in a boulder fronting to the south-east, and with a profile somewhat suggesting a huge faceless head. On the right side of the Ma'alúlah Valley are also four large fallen rocks pierced for "deep loculi" and resting upon the conglomerate.

The situation of Ma'alúlah is peculiar, even in Syria. The tall caverned cliff-ridge of Marmarún and Dinha, and the nipples of Rankus—a caricature of the Cintra Mountain-outline viewed from the sea—are here prolonged west; and the line is split by two Fijj (*Cluses*), deep transverse gorges caused by fracture at right angles to the strike or direction of the chain. The Fijj el Sharki (Eastern), which should be called Northern, bears from the junction 15° ; the Fijj el Gharbli (Western), 273° . The town, with its streets like mountain torrents, stands between them, at the south-eastern base of the bluff, which the two gashes insulate from the rest of the cliff-ridge; it runs up the lower slopes precipitous as Safet or Baylán, and above it, at the sky-line, is a perpendicular palisaded reef, much weathered, but showing marks of old carvings. Below the settlement is the great Wady of glaring white chalk, with its ribbon of cool deep shady green, the result of dense walnuts, tall poplars, and abundant water, which refresh the eyes like a bath. The peculiarity of the

Ma'alûlah Valley is, that it produces the *Fistuk* (pistachio), a tree here unknown: a specimen was shown to us at Mukhtara in the Libanus, but it was a fancy growth. The pistachio tree, whose fruits are the "nuts" of the A. V. (the Hebrew *Botnim*), flourishes chiefly in the district about Aleppo; it is extremely rare in Palestine proper, although a few trees, evidently transplanted, have been found near Jerusalem and Bayrut. All the trees scattered in the lower part of this valley, several of them showing more than one trunk supported by the same roots, are old, from afar much resembling venerable figs, but with fleshy ovate leaves attached to a red stalk. I did not see a single young tree. The green pistachio is a luxury, but this year (1870) all are Hail or barren, and they will not produce till the next. The same is the case in many parts of Syria with the olive. Does it show that the growth is not quite at home?

It is worth the traveller's while to thread the two Fijj, in order to understand the lay of the land. Beginning at the western, and passing up the roughest of streets, the path strikes the left bank high up. On the right is a cavern, with a breast-work of rough stones, and the remains of a ladder with sixty rungs. In this Husn or fort the Christians hid their women and children during part of July and August of the massacre year of 1860; and they were aided against the Moslems of the adjacent country places, who repeatedly attacked them, of course under order of the local government, by their Moslem fellow-villagers. This is one case out of many showing how well the two faiths can live together, were it not for the intrigues and the divisions bred for its own selfish objects by the authorities. It is as if, in order to hold India, we systematically fomented all manner of disturbances between Hindu and Moslem. Beyond El Husn, the gorge becomes wild; the torrents, which descend from four places to the west, must now be shallow, but they show a high old watermark, and a few trees are growing in one place by its side. The path then appears to be a stone staircase, with deep holes for the horses' hoofs. Reaching the summit in 15', and turning north, with the Sultani or modern high road to Damascus on the left, the traveller finds the monastery of Mâr Sarkîs, St. Sergius, a dome of common plaster supported by stone walls, with horizontal beams of wood let in, the custom of Persia as well as of Syria. Around it, to south-east and north-west, is a scatter of mortuary caves. The largest and best shows a niche with scallop-shell arch; another niche surmounted by a triangle containing a circle; an eagle with spread wings fronting west; and a similar figure upon the roof. All the inscriptions were defaced, and I could read only the familiar beginning ΕΤΟΥC.

The people, who were sledging Sumach, pointed out to me, above Mar Tekla, the place where Mir Mohammed El Harfushi, escorted only by twenty to twenty-five horsemen, finding himself pursued by a detachment of five hundred Turkish cavalry, rode up the slope, dismounted, and deliberately pushed his favourite mare backwards over the cliff, dashing her to pieces rather than allow his enemies to boast having captured her. He then attempted to scale on foot the left flank of the valley; but he was seized and led away to Damascus. At the beginning of the present century, he would have learned the use of the bow-string; but in these *tempi più leggiadri e men' feroci* he was merely exiled to Broussa. After a time, he fled disguised as a priest, obtained pardon at Damascus, and died at Sargháya—I am acquainted with his son Mir Ta'an. Mir Mohamed is described as a man with red hair and blue eyes, whose look suggested the cut-throat; he was, however, a fluent speaker, and the peasantry, who did not like him, but who have learned to like the Turkish rule less, now speak of him with regret.

I descended the right side of the "Eastern Gorge" by a precipitous path down a rock face lined with caverns. The large natural arch of stone which spanned it fell some forty years ago. At the bottom is a little rill, trickling from the upper gardens of the Convent, and by its shady side grows the Sha'ar Már Tekla (hair of Sta. Tecla), the maidenhair fern. It will be remembered that when she was flying from her idolatrous father, this Fijj opened for her a passage. I followed her steps to the convent which bears her name, mounted a multitude of stairs, passed up and down a variety of passages, and was shown a dripping of water which afforded her drink, and which still covers the rock with green. People ply the metal cup for Tabarruk—in order to receive a blessing. At right angles to the place of the spring is the saintly cell, now a chapel. After so much of pious reminiscence, it was a change to meet the inmates, who kindly gave me lemonade and coffee; one of them speaking English and showing an English dog, whilst all talked the latest politics, certainly not six months' old.

Ma'alúlah can muster some six hundred muskets; the Catholics number three-quarters of the whole; the Greek Rayyáhs one-eighth; and the Moslems, under their civil Shaykh Diyáb Hammud, about the same. The "Sulútiyyah", as they are termed without reason in official documents, are a fine, tall, and stout race, more like mountaineers than lowlanders; and the brown-red complexions of the girls are pleasing to look at after the yellow and rouge of Damascus. All are, however, unusually unclean, partly being Christians, and *au reste* dwellers in a cold climate. Their houses avoid windows and ventilation as much as possible,

and are capped by real chimney-pots; whilst cow-chips are dried, as in Sind, for fuel upon the roofs. Substantial walls are easily built with the freestone lying all around them, and the softer material composes their lime and whitewash. Almost every terrace has its plot of a strong smelling yellow flower, called Ward Asfar or Karanful, and of perfumed Rayhán, or herb basil (*Ocimum basilicum*), in which they seem to delight as much as Hindus. There is no such thing as a Suk, or bazar, and I had trouble in buying a bottle of vinegar, unjustly entitled wine. Yet the people applied to me for a school: they were referred to my friends Messrs. Wright and Scott, of the Irish Presbyterian Mission at Damascus, and I only hope that they will succeed.

Bilinguals, but rather Bæotians than Tyrians, all at Ma'alúláh, Moslems as well as Christians, speak Syriac, which they profess to have derived from their ancestry (Jaddan Ajdád). There are only three hamlets in the country where this lingers, the others being Jubb "Adín* and Bak'há'a. The old tongue is excessively corrupted, but it is still unintelligible to foreigners. Dr. Socin, a young Swiss traveller, whom I met at Damascus, and who has lately made a hit by discovering, at the Chaldean monastery of Mardin, the Kalilag ve Damnag, a complete translation of the original Panchatantra, spent two months with a friend in the Sarkís Convent, and learned all that he required. The following is a specimen of the half Arabic Syriac now spoken at Ma'alúláh.

Bohr, the sea (A., Bahr).

Bohrata, a tank (A., Buhayrah, Birkah).

Dayrá, a monastery (A., Dayr).

Ghauzta, a walnut tree (A., Jauzeh).

Hosoná, a horse (A., Hosan).

Humúra, an ass (A., Himár).

Huwwa, white (A., Howareh, chalk).

Lahmah, bread. (This is the Hebrew form, e.g., Bethlehem; in A., Lahm signifies flesh.)

Paytá, a house (A., Bayt).

Shinna, a tall fort-like rock.

S'jartá, a tree. (A., Shajar: hence the modern Syrian says "sajar" upon the same principle which makes some of us prefer "srimps" to "shrimps".

* Jubb, often corrupted to "Jibb", is a common prefix to Syrian villages; it means a well (Jubb Yusuf), pit, or water-hole, with or without surrounding vegetation. I have not visited Jubb'Adín, and can only repeat the information picked up at Ma'alúláh: the three Syriac-speaking villages are usually said to be Ma'lúláh, B'ak'ha', and Ayn-el-Tiriyyah. Since the above lines were written, Mr. Tyrwhitt-Drake writes to me: "Syriac is spoken only at Jubb'Adín, Ma'alúláh, and Bak'ha': they understand it a little, but do not regularly speak it at Ayn-Tinieh.

Tsalja, snow (A., Talj).

Tutshá, a mulberry tree (A., Tut).

Torá, a mountain (A., Tur).

The words are evidently harsher than the corresponding Arabic; and we find the elements of the "Iltiká el Sákinayn", the meeting of two quiescent consonants, which is so contrary to the spirit of the Koranic dialect, and which, especially at the beginning of words—*e.g.*, 'Bráhm for Ibráhm—where it is most easily remarked, first strikes the ear of the Arabist landing at Bayrut.

DESCRIPTION of SKULLS and other REMAINS from MA'ALULAH, SYRIA, discovered by CAPTAIN BURTON. By C. CARTER BLAKE, Doct. Sci., F.G.S., Hon. Mem. A. I., Lecturer on Comparative Anatomy, Westminster Hospital.

THE remains before us are of two descriptions, one white and bleached, and one which has been exposed for years to the erosive influences of interment. The first two specimens described belong to the first category.

1. Fragmentary occipital bone of young individual, possibly female. The marks for the attachment of muscles are not strongly marked.

2. Mandible (with canine tooth in place) of a large and aged individual. In the remarkably oblique ramus of this jaw, the shallow sigmoid notch, and the pointed coronoid, it bears some resemblance to the celebrated Moulin-Quignon jaw. The chin is prominent and "mesepicentric".* The alveoli for the molar series are small, and that for the third molar has been smaller than that for the second. The canines have been normal in form. The mylohyoid notch is deep. The two condyles are broadly divaricated; and the owner has probably been brachycephalous.

3. Facial bones of a large and tolerably prognathous person. The palate has been broad and shallow; and the molar teeth (two of which, and a premolar, remain in place) are large and worn. The orbits have been large and squared; the nasal bones large, thick, and curved; the nasal orifice of normal dimensions.

4. Frontal bone, with portion of parietal, probably of a female, with large frontal sinuses and prominent frontal bosses. The bones are very thin.

5, 6, 7. Portions of parietal bones, the one marked 7 being thicker than the other two.

8. Left mastoid process and petrous bone of a large and athletic male. The mastoid groove is deep, and the auditory foramen large.

* "Anthropological Review, vol. v, 1867.

9, 10. Portions of brim of ilium.

11. Molar tooth, not referable to the mandible above described.

If we endeavour to obtain any definitive race-characters from the present remains, we can only conclude that they belong to not more than three individuals, and that there is not the slightest resemblance with any of those described elsewhere from Palmyra. They do not appear to have belonged to what is called the Phœnician type. Of the probable age of the interment, I can only say that the condition of the bones indicates considerable antiquity.

No. 4 Lot.

From the Dayr Mar Musa el Habashi.

Two bangles of twisted glass, blue and white banded, called Dumluj, not Aswár (metal bracelets), and worn upon the arm, often till rolls of flesh are formed above and below them. The larger is much oxidised. It was bought from a girl, who had picked it up in a cemetery near Nabk where the grave-diggers were at work; all the rest were broken. The material of both resembles Hebron work, but is of better manufacture than the modern. They are, therefore, locally called Dumluj Akik (carnelian), to distinguish them from the ordinary Dumluj Kizáz.

Five skulls, probably of priests; one has the skull and mouth stuffed with wool.

These relics were found (September 28th, 1870) in the Wady Mar Musa el Habashi. This rocky Fuimara, a bare line of reddish and white limestone, in places curiously streaked and banded, appears, from the great number of mortuary caves, large and small, which riddle its right bank, to have been the conventual cemetery. Some of the pigeon-holes are at considerable elevations, and the stone has fallen away so as to render them almost inaccessible. The bodies were placed within loculi of cut slabs, after the ancient custom of the country (as in Mr. Rat-tray's cavern), and they are mostly sitting, still the ecclesiastical position. One skeleton was wrapped in the Mas'h, a coarse canvas which touches the flesh, with silk outside. Amongst them women appear to have been buried. I collected in this gorge five skulls, and I might easily have collected fifty. The children of Nabk, Dayr Atiyah, and other neighbouring villages, are, however, in the habit of passing their holidays in skylarking amongst the graves, and they have already done (anthropologically speaking) considerable damage.

The Fuimara in question draws to the east the upland *massif* which divides the Kara-Nabk terrace from the great Jayrud-Palmyra valley.* The range is locally known as the Jebel el

* These three gradients have been already described in chapter iii.

Sharki, or Eastern Mountain, which must not be confounded with the true Anti-Libanus, from which it is separated by two great steps. The name of the highest point, however, Jebel Kházim, from which the Halímat el Kabú bears 317° mag. and Jayrud 205° mag., might be applied to the whole block. It is a long, lumpy and uninteresting line, averaging 5500 feet in height. When viewed from the west, a shallow bulge in the centre, denoting the Wady Sha'ab, which opens opposite the Dayr el Atiyah village, divides it into two sections, northern and southern. Seen from the eastern and lower gradient, the Palmyran valley depressed about a thousand feet, it becomes a far more picturesque feature, walling in the long narrow plain which runs from Jayrud to Karyatayn. The monastery is perched on the left side of its gorge, and here the riding-path, a narrow ledge and ladder of slippery stone, ends suddenly; the good monks preferred keeping a precipice of some five hundred feet in front of them to ward off the Bedawin who ride the lowlands. We exchanged a shot or two with some fifteen of these gentry, mounted on mares and dromedaries, but more for bravado on both sides than with the intention of doing work. It is strange that of all those who have passed almost under the walls of this commanding building when *en route* for the Zenobian city, not one appears to have noticed it: they were probably too much occupied with the material hardships and the discomforts of the journey to look out for themselves, and they certainly had no guides who would look out for them.

Már Músá el Habashi (St. Moses the Abyssinian) was a hermit from the country of Prester John, who lived upon this mountain, and who died here in the odour of sanctity. The first monastery, distant about an hour and a half, or six miles, from Nabk town, was built over his remains by the Emperor Heraclius, A.D. 610 to 641, and it has, they say, been four times destroyed by sectarian hatred. Its annual pilgrimage was well attended until the last five or six years; but since that time the incursions of the Nomades have been an effectual bar to pious visitation. The holy man's thumb is kept in a silver box, and is kissed by wives who would become the joyful mothers of children. I managed here to secure an interesting "Mabkharah", a brass thurible for burning incense, whose art shows the extreme of quaintness. It is now passed round for inspection.

The western face of the building is in two compartments; and, as is still the custom, wooden beams are disposed horizontally about the masonry; the wall is battlemented, so as to sweep the only approach; at the south, however, an active scaling party, with some mechanical aid, might command an entrance. Over the single low door of iron, which is not easily moved,

even with a key, there is a Syriac inscription. A passage, with a well or cistern on the right hand, leads to the church. The latter is in the rudest Græco-Syrian style with the vilest of daubs upon the iconastasis and the walls. From the court a flight of steps runs up to a ricketty terrace, which commands a fine view of the Palmyran valley; and an inscription, half Arabic half Syriac, acknowledges the piety of a certain Matran (Bishop) Matta, who restored the building in A.D. 1799. Here we can distinctly see the White Mountain and the dark mound that form the Báb, or gate of Palmyra; the Sabkhah, or Malláhah, a succession of salt-pans, north-east of Jayrúd, which every one mistakes for ruins; and the ranges to the south-east, the Jebel Wustani, Jebel Zubaydah, and Jebel el Afa'í, which culminate in the tall horizon-wall supporting the Abd wa Abdah (slave and slavess), and ending the Anti-Libanus in the direction of the Desert.

Retracing our steps to the head of the Wady, and bending first to the north and then to the north-east, we pass the highest ledge of the range, Jebel el Kházim, before mentioned. From this point, striking the Wady el Mudakhkhan (Smoky valley), and descending some four hundred or five hundred feet to the south-east, we presently reach El Mudakhkhanah (the Smoker). Here the stone is rough, and cracked into cubes, which further weathering converts into plates, and these flakes break easily as mica. Scattered amongst the rocks are a dozen cracks and crevices, with lips blackened, and the vegetation around them parched and charred. Apparently, however, there is thorough combustion, as no trace of brimstone remains. That some of these apertures are deep, the sound of dropped stones told us; at this season they are rather cold than hot, but all the people assured me that a dense vapour issues from them after rains. The guides spoke of a large pit, but could not find it. I made them build a cairn for the benefit of future travellers, who will, it is hoped, be more fortunate.*

No. 5 Lot.

Collected at Hums.

Broken skull.

Fragments of face-bones.

Mortuary lamp.

The skull and bones were picked up (February 25th, 1871) at the ancient Roman baths, lying to the north-west and outside of Hums, Emesa of old. Excavations were going on for the sole purpose of removing the stones; the fine mosaic spoken of by travellers had already disappeared, and in a few years the place will be a mound of earth. This Hammám was probably out-

* Dr. Carter Blake's notes on these remains are deferred.

side the old city, which, however, extended far to the north, and was fed by the Sákiyat el Balad, or town-conduit, which sets off from the Orontes a little below the bridge at Rábá Amru. Just before my arrival, a votive altar, with illegible inscription, had been dug up a couple of hundred yards beyond the gate. Hums is still liberally supplied with well water; but whilst that to the east is sweet, all to the west and north, especially about the suburb containing the tomb of Sayyidna Khalid, is brackish. Beyond the Sakiyat stands the noble ruin known as Burjel Sauma'ah, Tower of the Oratory, and supposed to have been a prison, or castle. The square pyramidal top has wholly disappeared, and the western part is now strewn upon the ground. The same will soon be the case with the Kamí'a or Pillar of Hurmul, which Mr. Porter's illustration ("Five Years in Damascus", p. 308) shows to have been complete in 1853. There are no traces of the Greek inscription seen by Belon, which proved the Hums ruin to have been a cenotaph of Caius Julius (Cæsar), buried in the Mausoleum of Augustus. Pococke (chap. xiii) describes it when still comparatively well preserved, being forty feet square and thirty within, double-storied, and with five pilasters on each side, Doric below and Ionic above. Now nothing remains but a fragment of the northern wall, and smaller sections of the eastern and western flanks. The material, like that of the Balnea, is of flat Roman brick, set in concrete hard as stone; it is faced with basaltic squares, each about four inches, forming, with alternations of white limestone, diaper-work of rough mosaic. To the north, there are traces of five pilasters, but only the two central appear, and it is lined with five shallow cornice bands of the same black material. Viewed from the south side, the building seems to have had two vaulted stories, if not more. The inside of the western front shows a rude arch, with imperfect keystone,* like the massive vaulting in the lower part of the Sidon Castle. To the north and south of this cenotaph is a large modern burial ground: indeed, the cemeteries of Hums are more extensive than the city, and probably this has been so used from the most ancient times.

The mortuary lamp was taken from one of the cemeteries to the south of the great mound which bore the Temple of the Sun. To the south-west is the graveyard Jabbánat el Asi: here I was shown a solid basaltic door, like those of the Hauran, the Jebel

* I am at pains to imagine how the popular opinion about the Romans ignoring the true keystone was formed. The utmost that can be said of classical arches in Syria is, that the keystone is not an invariable feature; generally there is but one, more rarely we find two. The massive remains of the semi-circus at Baysan (of old, Scythopolis), in the Ghor or Jordanic valley, may be quoted as one of the best instances.

Durúz, and the 'Uláh, with an iron ring soldered into the outside. On the south-east is the tomb ignorantly supposed to lodge Ja'afar el Tayyár; it may have been tenanted by his descendants: around it lie the graves of the Jenádilah Shaykhs, descended from the celebrated Sufi Ahmad el Rufai of Baghdad. Near the south-west angle of the moat is supposed to lie the poet Ka'ab el Ahbár; and in this part many of the graves, lined and roofed with slabs of basalt, have yawned open, exposing their inmates. All, however, appearing to be modern and Moslem, the bones were left in peace.

Hums is one of the most interesting towns in Syria, not only on account of its past history, but for its present remains; and being somewhat out of the reach of tourists, it is still a fair field for the collector. A certain Konstantin Khuri bin Daud, in February 1871, sold me his copies, in ten sheets, of the four famous stones inscribed with Arab (?) hieroglyphics, (?) and scattered about the city of Hamah: they will in due time be exhibited to you. This local Dryasdust possesses a book in which he has entered for his own use, more or less correctly, 398 inscriptions of sorts—at least that was the number he gave me—existing in and about Hums, chiefly Greek, a few Latin, and some flowery Cufic. He led me, however, a long wild-goose chase in search of a Hebrew epigraph, which proved to be the usual disappointment. According to him, the eastern regions between Hums and Palmyra abound in ruins, basaltic all, like those of the 'Uláh; and for the small sum of five hundred piastres per month he volunteered, provided I would supply him with a guard, to bring back a rich store of "written stones" and *'antikát*. Of late, however, the Sublime Porte has adopted the highly invidious measure of forbidding all antiquities to be exported, under the pretext that they are wanted for a home collection. Were this the case, no complaint could be made; the step has been taken by civilised powers. But here it means simply a bakhshish *ad valorem* to the local governor, and the place for housing such valuables is yet *in nubibus*. It will be time to enforce the order when the museum, for which a Greek Rayyah has obtained a firman, comes into existence. Meanwhile interesting remains are left in the streets to be broken by boys; and foreigners are subject to all manner of annoyance. The Custom House at Constantinople seized a collection made by Messrs. Drake and Palmer when *en route* from Athens; it was not without difficulty and loss of a month that the plunder was recovered by their agent Mr. Lawson; nor were their expenses paid.

The most interesting question concerning Hums is the site of the gorgeous Sun Temple, from whose priestly servant proceeded four Cæsars and four Augustæ. Modern and perfunctory visitors, "our blind travellers", as they are characterised by Gibbon when

lauding Volney, have, of course, taken scanty interest in the matter; it is, however, curious to see that even Pococke and Maundrell,* writers of a very different stamp, have equally neglected it.

Yet the local legends speak clearly enough. The Right Rev. the (Greek) Bishop Dionysius of Trebizond, who now occupies the throne of Silvanus the Martyr, in answer to my inquiries, at once pointed to the Kala'at, or great mound. All declare that it was formerly in the centre of the city, which has now clustered to the north, leaving on the south only ruins and cemeteries. The old enceinte was pierced with six gates, bearing the names of the planets, the sun being in the centre; and we find this number perpetuated in the modern town.† It is added that the Christians, after establishing their faith upon the ruins of paganism, converted the Sun Temple into a cathedral. Hums was captured, some fourteen years after the Hijrah, by the fiery and fighting Khálid bin Walid, whose mortal remains were certainly interred in the northern faubourg, and the destruction of life and property was, according to local legend, terrible. In A.D. 1098, the Crusaders became masters of it; and finally they were driven out, after eighty-nine years' tenure (1187), by the Kurdish Sultan Salah el Dín—the latter, according to Pococke, probably fortified the Temple of the Sun.

It was, therefore, with more than usual curiosity that I proceeded to inspect the mound, which is still crowned with a tiara of torn and rent towers, some of them imposing even in the sadness of decay. The material is a hard yellow clay which, when tunnelled into, stands without supports: this may be seen at the southern talus, where a passage about a hundred paces long is used by the thread-spinners. Ascending by the easy zigzag from the Turkoman Gate, the perpendicular height is found by aneroid to be one hundred and twenty feet. The summit is an uneven broken oval, apparently covering a mass of ruins; the greater axis, from north-west to south-east, is 435 feet, and the conjugate, from north-east to south-west, is 375. I counted three wells sunk in the waving ground.

* Maundrell does not appear to have visited it, or, perhaps, to have published anything about it.

† The modern gates are: 1, Bab el Suk, to the north, showing on each side traces of ancient walls; 2, on the north-east, Bab Tudmur (Palmyra), with large blocks of limestone to the south, like those in the enceinte of Damascus; 3, south-east, Bab el Durayb, leading to Karyatayn; 4, south, Bab el Subá'a, showing on the jamb ancient carvings of grapes and leaves; 5, south-west, Bab el Turkoman, because the tent-dwellers used to camp opposite it; and 6, Bab Húd, corrupted from Bab el Yabúd (of the Jews), whose quarter was here till they were expelled the city. Now the "tribe of the Emesani" do not allow, as is said of the New Englander, a Jew to live and thrive amongst them.

When "Saladin" took the place, he seems to have thrown a revetment of masonry from the top of the hill to the bottom; many traces of it remain, especially on the northern, the eastern, and the south-eastern sides. The angle of this glacis was 45 deg., so as to prevent scaling, and the scarp now descends to the bottom of the fosse, which is sixty-two feet broad, and provided with a perpendicular counterscarp of masonry, some twenty feet high; moreover it is not connected with the town moat. The material of scarp and counterscarp is basalt, set in a concrete of mortar and limestone, and the blocks become notably larger as they descend. In places where the hard clay has been washed from under, it stands up like piecrust, outside black and white inside, allowing free passage like a covered way; in parts, also, it is bound together by older pillars of basalt disposed horizontally, as ties or thorough-bonds. Labour is unspared, and the masonry evidently dates from the same time as that of Cæsarea Palestina (Strato's Tower), and the outer western works of the tower of David, near the Khalil gate of Jerusalem. Traces of this same kind of revetment may be found on the Tells of the 'Ulâh; at Tahûnat el Hawâ, the northern point of Mount Girîzim; at Santa Hannâ, near Bayt Jibrîn; at Baysân (Scythopolis); and at the celebrated Tell el Kadi (Dan)—to mention no others. The walls of Hums, although made of the same material as that which protected the mound, are apparently of much later date.

This immense revetment formed round the rim of the mound a regular crest, varying from two to seven feet broad, whilst below it is ten or twelve; the rim is broken by towers and bulwarks within easy bowshot of one another. Of these "Burj"* there are now seven important remains. The long *meurtrières* intended for archers, not for matchlock men, the arches and the domed casemates, prove its date; whilst the old basaltic pillars horizontally couched in the solid masonry, the large blocks of white stone, the imposts of snowy marble, and the columns of fine Syenite and grey Egyptian granite, show what has become of the Sun Temple's splendid remains. After several days chiefly spent in searching about this mound, I was fortunate enough to find near the sixth Burj, beginning at the round white tower above the Turkoman Gate, a place where the stone revetment and the modern *débris* had fallen away. Here, facing the north-east country, stood, apparently *in situ*, a Doric pilaster, which seemed to have supported an arch: it was about six feet below the actual level of the plateau, and the descent, which is still used by the silk-spinners, looked as if it had anciently served as a ramp or approach. Before my friend and fellow-

* The Arabic equivalent—I will not attempt to argue the priority question—of the Greek *πύργος*.

traveller, Mr. C. F. Tyrwhitt-Drake, made his excursion to Hums and Hamah, I gave him details about the position of what I cannot but believe to be a remnant of the great shrine, and requested him to verify my observations: he searched everywhere without finding it, and he came to the conclusion that it had been covered by an earthslip, or had been broken up for building material. In these North Syrian towns, the destruction of old buildings is unpleasantly rapid: scores of old basaltic rafters, torn from the 'Uláh ruins, may be seen in the streets of Hamah. I would willingly offer a plan of this most interesting site; but it is far better left to the regular survey of Palestine, which will doubtless take the opportunity of making excavations.*

No. 6 Lot.

Collection of Flint Implements from near Bethlehem.

1 Round flat hammer of porous basalt, shaped somewhat like the clay spindle of Inner Intertropical Africa, and remarkable because wanting depressions for the grip of thumb and forefinger; nor is it grooved as in the Aztec specimens.

1 brass or copper needle with the central eye.

1 bone spicula (showing that copper or brass, bone and iron, were used at the same time).

2 fragments of bone and a human tooth, found with the flints.

6 fragments of arrow-piles or spear-heads.

11 fragments of knives, flakes of silex, mostly three-planed above and with single plane below.

2 specimens marked doubtful, probably unfinished chippings.

This find took place in 1866-67, at Bayt Sahúr, a village about twenty minutes' ride to the east of Bethlehem, well known to travellers because it is on the way to a favourite place of visitation. At the distance of an easy walk below the hill lies the Shepherd's Cave, a tunnel in the ruined Greek monastery Dayr el Ra'iyán (dei Pastori), where the angel appeared, and here also is the valley where David is supposed to have kept his father's flock. The scenery of this Beulah is certainly remarkable in the bleak and barren highlands of Judea: the valley whose background is the mountain wall of Moab shows extreme fertility; its broad slopes of wheat-fields are dotted and clumped with olives struggling down to the large square shrubbery about the Shepherds' Cave; the extensive vineyards produce the sweetest grapes, whilst the many convents to which the stone causeway led have fallen into picturesque ruins.

The site of the find is a ledge of chalky limestone, with a

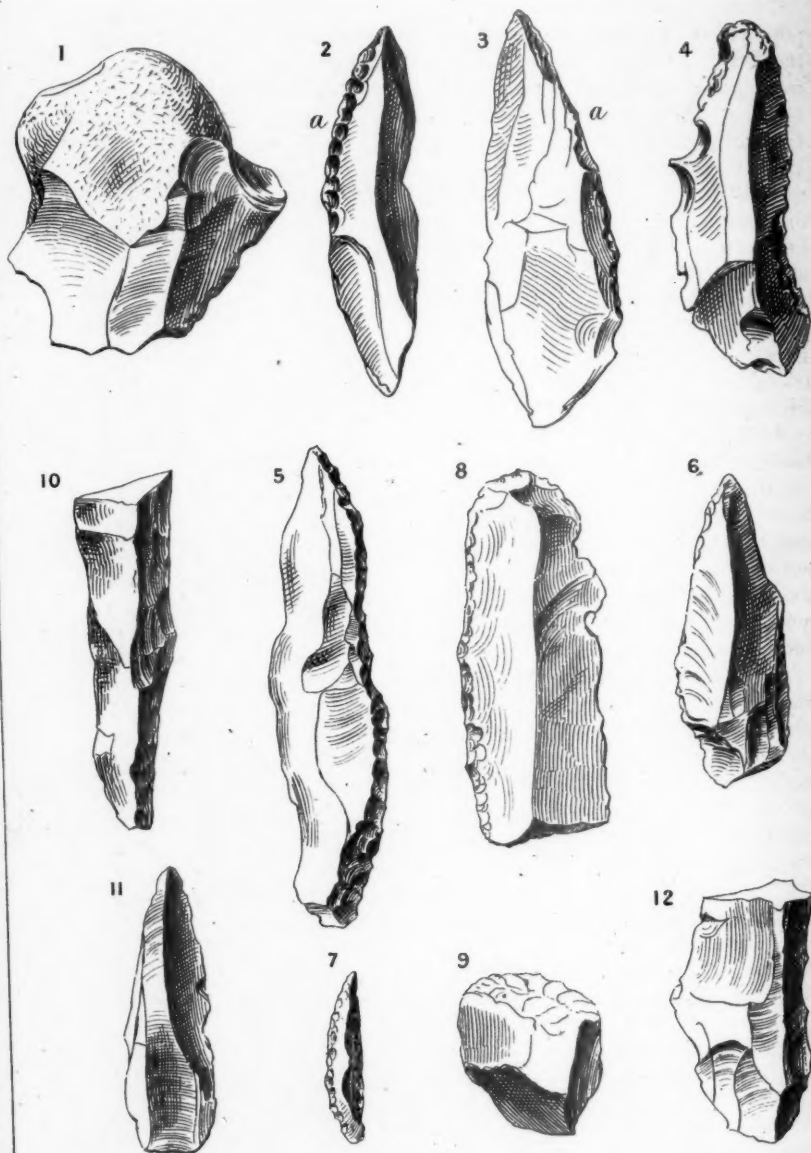
* Dr. Carter Blake's notes on these remains are deferred.

drop of rock and a bed of garden stuff to the north; whilst behind, or southwards, are steps of higher ground, over which runs the rugged road to Bethlehem. The chalk, as usual throughout the country, abounds in silex, but the material is not homogeneous; it occurs in lumps striated white and brown, or white and black, and it nowhere shows the buff colours of the flint implements now exhibited to you: the latter, therefore, were made from a different formation, possibly brought from the Moab plateau, and even further south. The only material positively identical with these is that brought by the late Major Macdonald from the turquoise mines of Mount Sinai, and exhibited at the Jermyn Street Museum, No. 46, principal floor, labelled "Flint flakes found near some ancient ruins in Arabia Petraea." Of the ten composing the total, three are like many of my specimens, three-planed above and buff coloured, on this point differing from the reddish silices of the Wady Magharah, brought home by the same traveller, and shown to me by Mr. John Evans, of Nash Mills. These ancient mining tools are well described in "Notes on a Geological Reconnaissance made in Arabia Petraea in the Spring of 1858." By H. Bauerman, Esq., F.G.S., Assoc. Roy. School of Mines ("The Geological Journal", xxv, 1869). It may be added to this study, that Mr. C. F. Tyrwhitt-Drake is convinced that the inscriptions of Wady Mukattab, which are *not* the "Voice of Israel from Mount Sinai", were cut with flint implements. The gloss and polish of these Bethlehem implements arise, I presume, from their having been brought from their beds of silicious or chalky sands, and one of them appears to be partly encrusted with carbonate of lime. The darker colours found in Major Macdonald's collection arise from ochreous sands, which would stain yellow, and from ferruginous sands and soils; the red brick earth would give a brown tinge.

Sundry silo-like holes had been pierced in the soft rock, and of these not a few had been broken at the sides. Mr. Tyrwhitt-Drake descended into one, and brought up fragments of human bone, mostly split for marrow (?), suggesting that here also, within cannon-shot of Bethlehem, lived and died a people of cannibals, and adding another instance to the long list of anthropophagous tribes who, at different ages, I believe, composed the sum of humanity. We can here reply satisfactorily to the triumphant rejoinder, "Why don't you find the *bones* of the men as well as their *implements*?" ("Quarterly Journal of Science", July 1871, p. 327.) Scattered around the well-mouths were silex chippings so coarsely shaped that they had been thrown away as useless by the makers. This mine is probably far from being worked out, and a careful examination of the ridge to the west may be rich in results.

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All Silex.
Colours. buff, grey, and black.

All nat. size.

The highway begins at Bethlehem with a vile descent of slippery limestone, all steps, holes, and ridgelets, the Caldeirões of the Brazil, but here they are stone not mud, whilst the sheets of rock severely try the horses' legs. Presently we reached (April 12th, 1871) Bayt Sahrûr, a filthy little hamlet, containing some fifteen hundred Greek Rayyâhs, three hundred Moslems, and a hundred and sixty Catholics; large bossed stones proved that the place has seen, like almost all in this land, better days. We dismounted at the little monastery, begun twelve years ago, still unfinished, and already named the (Latin) Church and Convent of the Shepherds. The principal, M. l'Abbé Moratin,* whom we afterwards met at Nablus on return from his wild ride, was engaged on missionary duty at Salt, the second *chef lieu* of the Belka Mutessarifik, and the honours were done by his *locum tenens* the curate, M. Simeon Kajabew, originally, I believe, a Circassian, and educated by the Propaganda.

After the normal pipes and coffee, the good curate led the way to the little museum, an outhouse to the west of the convent, where the collection from the silos was strewn about table and floor. It represented a score or so of large jars of coarse pottery, and classical in shape; mortuary lamps, none of them inscribed so as to be interesting; a few medals; two fine brass (bronze?) hatchets; some bone points for spears or arrows; two round flat stone hammers for chipping the silex; and about two hundred flint implements.

The importance of this discovery can hardly be exaggerated. Flint implements in Syria and Palestine were, before the days of M. Lartet, almost as rare as Hebrew weapons, far rarer than Hebrew shekels, although traditionally known to have been used amongst the ancient Persians and the Greeks. The late Duc de Luynes, a man who devoted a noble fortune to scientific, linguistic, and artistic pursuits, was, I believe, the first to find a few, when "cave-hunting" at the mouth of the Nahr el Kalb, or Lycus River. During twenty months' residence in Syria, I had seen but one specimen, in the possession of M. Peretié, of Bayrut. Since my return to England, I have been more fortunate, and Mr. Augustus W. Franks, F.S.A., kindly forwarded to me the following notes (with illustrations) of the Lebanon Collection given by M. Louis Lartet to the late Mr. Christy.

The curate Kajabew kindly allowed us to carry off a few specimens, which were presently forwarded for the inspection of the Anthropological Institute, refusing payment and referring us

* He is called Moratain by M. de Saulcy, to whom he gave, on December 11th, 1863, six small *couteaux-scies*, found when digging the foundations for his church: the French traveller writes, "Je suis ravi de posséder ces reliques des temps anté-historiques de la Judée."

to the proprietor. He was of opinion, like those around him, that they were flint knives used by the Jews in circumcision; and I did not care to contradict him. Of this more hereafter. We have since then, through my excellent friend, Mr. Noel Moore, Her Majesty's Consul for Jerusalem, made an offer to purchase the whole collection from M. l'Abbé Moratin, and we are awaiting somewhat impatiently the result.

Amongst the company was a Syrian in a zouave dress of the military, not the fancy pattern, who answered to the name of 'Brahim Hanna Saïd. A native of Bayt Sahûr, he had accompanied the Anglo-Abyssinian expedition, and he had been wounded and invalided during the earlier stage of the Franco-Prussian war. He declared that similar instruments were to be found at Bayt Bassah and at the complicated caves of Khoraytûn (the old Laura of St. Chariton), so long supposed to be those of Adullam, till M. Ganneau, of whom more presently, pointed out the true site further east, at the Khirbat Adalmiyyah, pronounced by the people 'Aïd el Miyyeh, and given in M. Guérin's map as Aïd el Mia, at a short distance from the well known Bayt Natif. Jebel Furaydis (of the Garden), *alias* the Frank Mountain, *alias* the Herodeon, a word now known to the ragged sons of the Ta'âmirah Bedawin, and other neighbouring sites, were also, he declared, to the full as rich as Bayt Sahûr. Though we vehemently distrusted his promises of sarcophagi, bone-breccia, human skulls, and many similar curios, we advanced him sixteen francs. He repaid us by bringing a few bad lamps and worse flints, with many promises of better things. These promises not having been realised, we commend him to the attention of future travellers.

This find gave us spirit to search for more, and in early June (1871) my fellow traveller, when riding about the ruins of El Maksurah, near Dhumayr, the north-easternmost settlement of the Damascus plain, picked up an undoubted arrow-head and two specimens of flaked flints.

Since my return to England, my attention has been drawn to a paper by M. l'Abbé Richard.* The part referring to the discoveries of flint instruments in Egypt and upon Mount Sinai is hardly to the point; but I will quote textually and comment upon what regards Palestine.

"Mais les instruments qui méritent, je pense, la plus grande attention, sont ceux que j'ai trouvés à Galgal, sur les bords du Jourdain, et au tombeau de Josué.

* "Archéologie : Découverte d'instruments de pierre en Egypte, au Sinai et au tombeau de Josué." Par M. l'Abbé Richard. P. 540. 1871. Deuxième semestre. "Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences", par MM. les Secrétaires Perpétuels. Tome lxxiii. No. 9 (28 Août, 1871). Paris: Gauthier-Villars.

"Il est écrit dans la Bible, à la fin du livre de Josué, que Dieu ordonna au chef du peuple d'Israël de faire des couteaux de pierre (*cultros lapideos*), afin de circoncire les Hébreux nés dans le désert. La version des *Septante* ajoute que Josué conserva les couteaux, et qu'après sa mort on les mit dans son tombeau. Les traducteurs des *Septantes* déclarent qu'alors les couteaux y étaient encore.

"M. V. Guérin, envoyé en Palestine par le Gouvernement Français en 1863, retrouva ce tombeau longtemps oublié ou perdu, et en établit l'authenticité dans un Rapport adressé à l'Académie en 1865. M. de Saulcy, dans son '*Voyage en Palestine*' (t. ii, p. 233 et suiv.),* confirme les caractères d'authenticité du tombeau de Josué, et dit que les couteaux doivent y exister encore. Etant, l'année dernière, en Palestine, je suis allé visiter à Tibneh le tombeau, et j'y ai trouvé un grand nombre d'instruments, généralement des couteaux. Quelques-uns même, comme on peut le voir, sont encore très-tranchants. Il y a aussi des scies, des pièces plates, allongées ou arrondies.

"Quant aux conclusions que l'on peut tirer en la découverte de ces instruments, les arguments ou les objections qu'ils peuvent fournir aux théories mises en avant par les diverses écoles anthropologiques modernes, je laisse ce soin à de plus éloquents que moi. Je me contente d'exposer le fait à l'appréciation de MM. les membres de l'Académie et des autres savants qui s'occupent de la grave question des instruments de pierre et de l'antiquité de l'homme. Je prie seulement qu'on fasse attention à la ressemblance parfaite qui existe entre les silex du tombeau de Josué, qu'on doit appeler *historiques*, et les silex que l'on veut être nécessairement *préhistoriques*. Cette identité est un fait. J'ai trouvé, entre le Mont Thabor et la Mer de Tibériade, sur un plateau élevé d'environ 250 mètres au-dessus du Jourdain, dans des terrains non-seulement récents, mais à la surface du sol, un hache et d'autres pièces que l'on regard comme essentiellement caractéristiques de terrains tertiaires et quaternaires. Permettez-moi d'émettre une pensée: on veut généralement établir l'âge des silex taillés d'après les terrains; il me semble que c'est le contraire qu'il faut faire; ces sont les silex taillés qui doivent donner l'âge des terrains, comme les fossiles donnent l'âge des roches."

The learned abbé would, I think, unduly limit the use of the flint instruments brought from the tomb of Joshua to one pur-

* M. de Saulcy (*loc. cit.*) places the sepulchre of Joshua near Antipatris and Augustan Caesarea, the Timnath-Heras (Judges, ii, 9), the Timnath-Sarah (Joshua xxiv, 30), and the *ἑρᾶς* in which the leader buried *μαχαίρας τὰς περὶ αὐτόν*. Heras inverted becomes Sarah, and this, by transposing the second and third consonants, becomes Sahar. Possibly "Heras" may be connected with Heraseth (e.g., Kir Heraseth of Moab), concerning which certain details will be given in a subsequent page.

pose, making them all "cultelli circumcisionis." But how many implements of this nature would be required, even by a considerable body of people, for a couple of generations? It is also evident that more than one of my specimens is the pile of an arrow.

The traditional tomb of Joshua, according to the Moslems and Druses, is, I may remark, very far from Tibneh. We visited Naby Yusha'a on May 16th, 1871. The large mass of building is picturesquely situated upon the western highlands which border the southern extremity of Cælesyria, where the great valley (Arz el Húlâh) is merged into the waters of Merom. The country here belongs to the Metawali sectaries, and until the last few years no Christian has been allowed entrance. The result has been a little loss of *prestige* to the shrine, but a great advance in the cause of toleration.

Entering the strong enceinte of stone and lime by a diminutive door, and passing through the large hypæthral court, we found two whitewashed domes at the further end. The tomb is covered by the western cupola; it faces south-east, or roughly towards Meccah; and it measures in length one fathom and two spans. Under the eastern dome is the Makam Hammad Bey el Asa'ad, a Metawali chief, buried here in A.D. 1280, and evidently quite new. We found the only care-taker to be a fellahah, whose husband was absent, and she did the honours without in any way objecting to such unusual guests.

The following note was read:

NOTE on the IMPLEMENTS from BETHLEHEM.

DEAR CAPTAIN BURTON,—In accordance with your request, I send you a few notes on the antiquities found in the neighbourhood of Bethlehem, which you were so good as to leave with me for examination.

The materials of which they consist are bone, bronze, and stone; but it is mainly with the latter that I have to concern myself. Besides some fragments of human teeth, the bones are only two in number, being portions of the same bone of the left leg of a young ruminant, and split longitudinally, at what time, or with what intention, it seems hard to divine.

The only bronze object is about two inches and three-quarters long, and one-eighth of an inch in diameter, with a perforation apparently punched through it at one inch and three-quarters from one of its ends, which is blunt and rounded. The other end appears to have been broken, so that it is impossible to determine what may have been its original length or form—whether

that of a hairpin, or of a kind of needle for sewing purposes. I am not aware of the circumstances under which it was discovered; but it appears to me to belong to another, and probably later date than that of the stone antiquities next to be described.

These are twenty-one in number, and, with one exception, formed of flint; the exception being a hammer-stone, formed, apparently, of a heavy basalt. This instrument is of discoidal form, about two inches in diameter, and about five-eighths of an inch in thickness; the edges appear to have been considerably worn away by hammering, and at one place a splinter has been broken off. Of the two faces of the disc, one is rather flatter than the other; but on neither is there any shallow cup-shaped depression such as so commonly occurs on the "knapping-stones" of Scandinavia, and more rarely on those of British origin. Even on the hammer-stones of North America and Southern Africa, the same kind of hollows are often worked, and afford an instance of the way in which similar wants and similar experiences lead to similar results in countries remote from each other, and at very distant intervals of time. It was probably found that if the stone were held tightly, the hand was jarred by the blow, while, if held loosely so as to avoid the jar, it was liable to be driven away from between the finger and thumb, if there were no depressions in the faces of the stone in which to place them.

Many, however, of the hammer-stones of flint and quartzite, such as have been found in England and France, are, like this Syrian specimen, left without any depressions on their faces, and were probably held between the thumb and middle finger when in use, with the forefinger passing over a portion of the periphery.

Among the worked flints, that on the manufacture of which the greatest amount of labour has been bestowed, is a rather thick leaf-shaped blade, chipped all over both faces, about three inches and a quarter long, and one inch wide in its broadest part. The outline is not quite symmetrical, one edge being flatter than the other, and neither end is brought to a well-defined point. I am inclined, therefore, to regard it as a knife rather than a lance-head. I have some flint knives of much the same shape and size from the Yorkshire wolds. In a larger and thinner blade of the same character, found in Suffolk, and also in my own collection, the more curved edge has been made blunt by grinding, so as to convert it into the back of the knife.

The remaining objects are flakes and splinters of flint, some of them mere fragments, though of undoubtedly artificial origin. Some of the flakes, however, are very fine specimens of the kind, being skilfully and artistically made. One flat flake especially, two inches and seven-eighths in length and about five-eighths in

width, is perfectly symmetrical; and the core from which it was struck would seem to have been as regular in outline as those found in the Indus, which I have described in the "Geological Magazine" (vol. iii, 433). The material is also of much the same character and colour. One of its edges is somewhat notched, and the surface near it polished, as if it had been used as a saw. A short flake, one inch and three-eighths long, has one edge more carefully serrated and its surface more highly polished. One end of it and the other edge have been chipped square, possibly to make it a scraping tool as well as a saw. It appears adapted for working in bone. The edges of several other flakes show signs of having been used for sawing and scraping, and in one or two instances, have been worked to a right angle, either to produce a square scraping edge, or by wear in use.

The flint from which the instruments have been made varies in its character, and appears to have been derived from different sources. One broad flake is of black, nearly opaque flint, not unlike that from some oolitic beds; other flakes are of brown flint; but the bulk are of a buff colour, and in character much like the flakes found in the neighbourhood of the ancient copper workings of Wady Magharah, and brought to this country by Major Macdonald, Mr. Bauerman, and others. None of them, however, present the worn and blunted ends and sides so common on the Wady Magharah flakes. One fragment is whitened in consequence of having been burnt; but the others, with the exception of the knife, have been little altered in colour or in structure. The knife has become whitened over nearly the whole of its surface, but to a very slight depth. As to the period to which these relics are to be assigned, we seem to have little to guide us, most of the forms being such as may have remained in use after the introduction of metal for some cutting purposes. On the other hand, we find the same forms among the refuse-heaps of the Cave-dwellers of the South of France. Unless the associated fauna prove that such cannot be the case, they are doubtless of Neolithic age, and probably of much the same date as the instruments of similar character from Sinai.

Believe me, dear Captain Burton, yours very truly,

JOHN EVANS.

Nash Mills, Hemel Hempsted, November 1871.

DISCUSSION.

Mr. AVERY ventured to express a doubt whether some, at least, of the flints exhibited were the work of man, or were not, rather, natural and accidental. On the hill behind Ventnor, in the Isle of Wight, a visitor would easily find any number of flints of similar appearance, which were obviously of natural origin. The use of flint implements

was regarded as marking a certain stage of civilisation ; and it was a curious question what race of mankind now occupied that position. He had some doubts whether implements of so imperfect a nature had ever been very long or very extensively employed.

Mr. H. W. JACKSON : The last speaker has been more fortunate than I have been. I have resided for many years in a gravel district, and I must say that I have never yet found any stone whatever which it was possible to mistake for any of the many forms of implement manufactured by man. With regard to the quantity of animal matter in old bones, I should like to tell a short story. Many years ago, at one of the British Association dinners of the renowned "Red Lions", the late Dr. Buckland was appointed caterer for the occasion. So he decided to give his scientific brethren—a treat. He procured a large quantity of fossil bones—those of the Cave lion were, I think, among them—and he had some soup prepared from them. All the Red Lions partook of the soup, but all thought that the flavour was peculiar, and while some said that the soup was rather thin, others fancied that it was somewhat gritty. When the Doctor gave his explanation of the thinness and grittiness and peculiar flavour of the soup, I believe that some of the diners were not well pleased.

Mr. LEWIS, referring to Captain Burton's statement that his fellow traveller had been able to cut inscriptions upon some of the rocks on which ancient inscriptions were found, with flint implements found on the spot, showing thereby that the older inscriptions might have been cut with those implements, asked what kind of rocks they were, and what character the ancient inscriptions were cut in.

Sir D. GIBB inquired of Dr. Carter Blake his reasons for saying that some of the bones were not more than twenty years old.—Dr. CARTER BLAKE referred to the greater proportion of animal matter present in the jawbone and part of skull from Moslem cemetery, and probably Negro.

Captain BURTON replied. He declined to enter into elementary discussion about flint-implements. This was not the place for such trials of strength. The inscriptions alluded to by Mr. Lewis were the celebrated Sinaitic epigraphs.

The following paper was read :

On a COLLECTION of STONE IMPLEMENTS and POTTERY from the CAPE of GOOD HOPE. By the Rev. LANGHAM DALE. Communicated by G. BUSK, F.R.S., V.P.A.I.

ON the 9th February, 1869, Sir John Lubbock communicated to the Ethnological Society a brief notice of a collection of stone implements, made in the neighbourhood of Cape Town by my brother, Mr. C. J. Busk, and the Rev. Langham Dale. In this communication Sir John Lubbock gave an account of the general character of the South African specimens, which was illustrated by figures of the more striking objects. The collection exhibited on the present occasion, and forwarded a short time since by the

Rev. Mr. Dale, includes select specimens collected by himself on the "Cape Flats" and elsewhere; together with numerous others from parts near the coast of British Caffraria, collected by Mr. George M'Kay.

The majority of the specimens consist of pointed, spear-shaped flakes, resembling those described and figured by Sir John Lubbock; but amongst them is also a polished stone Celt, of an elongated wedge-shaped form, and constituted of a sort of green-stone. As the former collection did not include any specimen of polished or ground stone, the present instance may be regarded as of peculiar interest. The implement is about 5·8 inches in length, and 1·1 wide, and about an inch thick at one end, whence it tapers rapidly to the other. It will be observed that Mr. Dale, in his list of the specimens, includes some that he terms "scrapers," but with respect to these both Sir John Lubbock and Mr. Flower were of opinion that it was extremely doubtful whether the implements so termed were really "scrapers," the absence or paucity of which in South Africa has been before remarked.

The following are Mr. Dale's notes accompanying the collection, to which he has subjoined a list of the specimens,* with a statement of the various localities in which they were found:—

"It will be observed that all the implements are found on what may be called the normal surface soil; in some places nothing has occurred to disturb the soil, and the varieties of chips and unfinished tools lie in considerable quantities on the surface; the exposure to wind and water accounts for the peculiar appearance of many of them. On the Cape Flats there are vast tracts of sand, shifting season after season; this drift is being permanently but slowly arrested by the planting of the Hottentot fig (*Mesembryanthemum edule*), and various shrubs and coarse grasses, so that it will soon be a work of toil to search below the mountains of sand. Wherever the wind has swept off the sand from a valley, and piled it in heaps on either side, in the depression (often in shallow water) implements are found, partially embedded in the surface clay. Occasionally, a more finished specimen is picked up on the open flat, as if it had been used and dropped there.

"I would notice, too, that the finding of implements at East London was due to the alluvium being cut through by wagons, passing from the port to Fort Glamorgan. It is premature to hazard any theory as to the age of the South African stone implements; the subject is attracting attention, and from a letter which I have received from the Rev. Mr. Kronlein, of the Rhen-

* It is intended to lodge these in the Christy Museum.

ish Mission at Beersheba, north of the Orange River, I am inclined to hope for positive evidence of their use being known to some native races of the present day. The illustrations of various implements which I had sent him, when exhibited to the people, were recognised as of things known to them. The grain-crushers and the perforated stones are evidently the most modern. It seems to be acknowledged that a stick was forced into the perforated stone, and so used by the old Hottentot warriors as a weapon in time of war, and also as a tool to dig roots out in time of peace; for these uses I have the direct testimony of the missionary at Wapperthal, in the Clanwilliam division, and of others. I shall continue to collect evidence bearing on the problem of the age of these implements; at present the probability is, that they have been in use at no distant day among Bushmen and Hottentots."

Stone Implements, Cape Colony, 1870.—The localities where these implements, which I now send, were found, are in the Cape Colony, viz.—

LOCALITY.	SPECIMENS.	SOIL AND CONDITIONS.
1. Cape Flats, near Cape Town.	Various — spear-heads, arrow-heads, flakes, sling-stones, corn-crushers, scrapers, and pottery.	On the undisturbed soil, where left bare by the drifting away of surface sand.
2. East London, at the mouth of the Buffalo R., British Kaffraria.	Various—chisels, sharp-eners, rubbers, arrow-heads, flakes, perforated stones.	In gravel, under four feet of alluvial clay.
3. West bank of the Ka-hoon, British Kaffraria, 1½ miles from the sea.	Chisel and flakes.	On the red soil of the country.

Specimens have also been found at

LOCALITY.	SPECIMENS.	SOIL AND CONDITIONS.
4. Panmure, on the hill near Buffalo Mouth.	Arrow-heads.	In gravel, under two feet of alluvial clay.
5. Cape Henderson, near the Kei River.	Various.	Surface of red soil undisturbed.
6. Klip River Sprint, division of Albert.	Various.	Surface of red soil undisturbed.
7. Between Queen's Town and Dordrecht.	Various.	Surface of red soil undisturbed.
8. Lower Albany.	Arrow-heads.	.....
9. Mouth of Great Fish River.	Arrow-heads and flakes.	.....
10. A drift of the Orange River.	Arrow-heads and flakes.	.....

The specimens from the Cape Flats comprise: three spear-heads without shaft; one spear-head with shaft; one core; bits of pottery, and a handle of a pot; two rubbers; flakes, various; scrapers.

The specimens from British Kaffraria, for which I am indebted to Mr. George M'Kay, are: one peculiar rubber, No. 22, white; one chisel, No. 32, red; flakes Nos. 28, 29, 30, 36, red; two rubbers, Nos. 52, 53, green, from a shell-heap; one perforated stone; flakes Nos. 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 26, 27, white; flake (large) No. 1, white; flake (large) No. 0, 2; one nondescript large flake (unnumbered); one peculiar sharpener, No. 19, white.

DISCUSSION.

The Rev. J. G. WOOD remarked that he could not believe the stone ring which was exhibited to be used indiscriminately as an aid to digging and as a weapon. He was aware that the Hottentot women use such rings in order to give weight to their digging sticks. But a woman's agricultural implement was a different thing from a warrior's weapon, and he was not aware that the same object was ever used for two purposes so essentially distinct. Moreover, as far as he knew, none of the Hottentot tribes used stone weapons, and he was exceedingly surprised to find that a resident missionary should make so startling a statement.

Mr. F. W. RUDLER, F.G.S., exhibited a stone hammer and an unique double-pointed cutting implement, also from the Cape of Good Hope; and the PRESIDENT exhibited some stone polished implements of rare beauty from Greece.

The meeting then separated.

DECEMBER 18TH, 1871.

DR. CHARNOCK, *Vice-President, in the Chair.*

THE minutes of the last meeting were read and confirmed.

The following new members were announced: The Right Hon. the Earl of DUNRAVEN, Dunraven Castle; JAMES BEST, Esq., M.D., 11, Johnson Place, Harrow Road, W.; J. KEMPE, Esq., M.A., 5, Barnard's Inn, Holborn, W.C.

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From the EDITOR.—The Food Journal, for December 1871.

From the REGISTRAR-GENERAL, Melbourne.—Patents and Patentees, vol. iv. Indices for 1869.

From the INSTITUTION.—Journal of the Royal United Service Institution, No. 65.

From JAMES BURNS, Esq.—Human Nature for December 1871.

From the EDITOR.—The American Naturalist for November 1871.

From the EDITOR.—Nature, to date.

From the EDITOR.—La Revue Scientifique, Nos. 24 and 25, Nov. 1871.

From the EDITORS.—Matériaux pour l'Histoire primitive et naturelle de l'Homme, No. 11, Nov. 1871.

From the AUTHOR.—Quadri della Natura Umana Feste ed Ebbrezze. By Paolo Mantegazza. 2 vols.

The following paper was read :

*The ANTHROPOLOGY of AUGUSTE COMTE.** By JOSEPH KAINES, Esq., M.A.I.

THE sources of this paper are to be found in chapters on "Biology" (vol. iii), and on "Fetichism" (vol. iv), of M. Comte's "Philosophie Positive", and in the third chapter of his "Politique Positive" (vol. i). The serious student will need no words of mine to induce him to read the full exposition therein contained. For the convenience of my hearers I will not quote, however, from the original French, but from Miss Martineau's admirable translation and abridgement, a book M. Comte himself approved.

The purpose of the following paper is to show that the differences between man and the rest of the animal kingdom are not so great as they are usually represented ; nor, in fact, are they so numerous as their resemblances. Treating man as the head of the zoological series, it attempts to show that his dominion over animals was from primitive times, (and is now) a moral dominion, rather than intellectual. And the paper concludes by arguing that only in so far as all external nature is used by man for moral ends, it is rightly used ; and that the intellect finds its true work in directing his affective nature to moral purposes and relationships.

Nature has been divided by all zoologists into three primary divisions, namely, the animal, vegetable, and mineral kingdoms—that is, into the organic and inorganic. Man has been placed at the head of the animal kingdom. He is the first of animals, not the last of angels ; zoology knows nothing of angels. Man's physical structure is analogous to that of all animals, and he has in common with them the same psychical characteristics. What few differences exist are of degree rather than of kind—quantitative rather than qualitative. Both know what want, suffering, and sorrow are ; both are elated by affection, hope, and joy ; both

* Read before the Anthropological Department of Section D (Biology) of the British Association for the Advancement of Science, at Edinburgh, August 8, 1871.

have intellect and moral sense, and both are educable by love; both have their likes and dislikes, and, apparently, unreasonable antipathies; both have to "struggle for existence," and know how hard it is; both are excited by the same sights and the same passions—what is new or wonderful strike both, and perplex both alike; both exhibit faithfulness, reverence, love, pity, and remorse; and there is not wanting evidence that both are passing through the same intellectual and moral development. There are animals that have their fetiches, as civilised man once had, and most savages now have. M. Comte finely says—"The study of animals has been vitiated by the old notions of the difference between instinct and intelligence. Humanity and animality ought reciprocally to cast light upon each other. If the whole set of faculties constitutes the complement of animal life, it must surely be that all that are fundamental must be common to all the superior animals, in some degree or other; and differences of intensity are enough to account for the existing diversities—the association of the faculties being taken into account on the one hand, and, on the other, the improvement of man in society being set aside. If there are any faculties which belong to man exclusively, it can only be such as correspond to the highest intellectual aptitudes; and this much may be doubtful if we compare, in an unprejudiced way, the actions of the highest mammifers with those of the least developed savages. It seems to me more rational to suppose that power of observation, and even of combination, exists in animals, though in an immeasurably inferior degree; the want of exercise resulting chiefly from their state of isolation, tending to benumb and even starve the organs. Much might be learned from a study of domestic animals, though they are far from being the most intelligent. Much might be learned by comparing their moral nature now with what it was at periods nearer to their first domestication, for it would be strange if the changes they had undergone in so many physical respects had been unaccompanied by variations in the functions which, more easily than others, admit of modification. . . . Man, from the height of his supremacy, judges of animals as a despot judges of his subjects—that is, in the mass, without perceiving any inequality in them worth noticing. It is not the less certain that, surveying the whole animal hierarchy, the principal orders of this hierarchy sometimes differ more from each other, in intellectual and moral respects, than the highest of them vary from the human type. The rational study of the mind and the ways of animals has still to be instituted, nothing having yet been done but in the way of preparation. It promises an ample harvest of important discovery, directly applicable to the advancement of the study of man, if only the natural-

ists will disregard the declamation of theologians and metaphysicians about their pretended degradation of human nature, while they are, on the contrary, rectifying the fundamental notion of it by establishing, rigorously and finally, the profound differences which positively separate us from the animals nearest to us in the scale."

Seeing, then, that all animals have so much in common with man, what is it that has led man to separate himself from other animals, and to exalt himself above them? The possession of reason, some one may say, while animals have instinct only. Well! but what is instinct? It is a word often used, seldom understood, still seldomer explained. M. Comte continues:—

"The only meaning that can be attributed to the word *instinct* is any spontaneous impulse in a determinate direction, independently of any foreign influence. In this primitive sense the term evidently applies to the proper and direct activity of any faculty whatever, intellectual as well as affective; and it therefore does not conflict with the term *intelligence* in any way, as we so often see when we speak of those who, without any education, manifest a marked talent for music, painting, mathematics, etc.

"In this way there is instinct, or rather there are instincts in man, as much or more than in brutes. If, on the other hand, we described *intelligence* as the aptitude to modify conduct in conformity to the circumstances of each case—which, in fact, is the main practical attribute of *reason* in its proper sense—it is more evident than before that there is no other essential difference between humanity and animality than that of the degree of development admitted by a faculty which is, by its nature, common to all animal life, and without which it could not even be conceived to exist. Thus the famous scholastic definition of man as a *reasonable animal* offers a real no-meaning, since no animal, especially in the higher parts of the zoological scale, could live without being to a certain extent reasonable, in proportion to the complexity of its organism. Though the moral nature of animals has been but little and but very imperfectly explored, we can yet perceive, without possibility of mistake, among those that live with us and that are familiar with us,—judging of them by the same means of observation that we should employ about men whose language and ways were previously unknown to us,—that they not only apply their intelligence to the satisfaction of their organic wants, much as men do, aiding themselves also with some sort of language; but that they are in like manner susceptible of a kind of wants more disinterested, inasmuch as they consist in a need to exercise their faculties for the mere pleasure of the exercise An attentive examination of the facts therefore discredits the perversion of the word *instinct* when

it is used to signify the fatality under which animals are impelled to the mechanical performance of *acts* uniformly determinate, without any possible modification from corresponding circumstances, and neither requiring nor allowing any education, properly so called. This gratuitous supposition is evidently a remnant of the automatic hypothesis of Descartes. Leroy has demonstrated that among mammifers and birds this ideal fixity in the construction of habitations, in the seeking of food by hunting, in the mode of migration, etc., exists only in the eyes of closet naturalists or inattentive observers."

A very little reflection will show that man is almost as much a creature of instinct as other animals. Most of his actions are unconsciously automatic, and his least noble and mostly animal functions have frequently fullest play.

A sound biological philosophy makes little or no difference between man and other animals; on the contrary, it seeks to trace his genesis from inferior organisms. Mr. Darwin concludes his recent remarkable work with the words: "man still bears about him traces of his lowly origin." M. Comte adds: "Man must have begun like the lower animals. The fact is so, allowing for superiority of organization; but perhaps we may find in the defects of the inference a misapprehension of the mental state of the lower animals themselves. Several species of animals afford clear evidence of speculative activity; and those which are endowed with it certainly attain a kind of gross fetichism, as man does,—supposing external bodies, even the most inert, to be animated by passion and will, more or less analogous to the personal impressions of the spectator. The difference in the case is, that man has ability to raise himself out of this primitive darkness, and that the brutes have not, except some few select animals, in which a beginning to polytheism may be observed, obtained, no doubt, by association with man. If, for instance, we exhibit a watch to a child or a savage, on the one hand, and a dog or a monkey on the other, there will be no great difference in their way of regarding the new object, further than their form of expression;—each will suppose it a sort of animal, exercising its own tastes and inclinations; and in this they will hold a common fetichism, out of which the one may rise, while the other cannot. And thus the allegation about the starting-point of the human species turns out to be a confirmation of our proposition, instead of being in any way inconsistent with it The celebrated phrase of Bossuet, applied to the starting-point of the human mind, describes the elementary simplicity of theology—"Everything was God, except God himself;" and, from that moment forward, the number of gods steadily decreased. We may recognise some features of that

state of our own condition of mind when we are betrayed into searching after the mode of production of phenomena, of whose natural laws we are ignorant. We then instinctively conceive of the production of unknown effects, according to the passions and affections of the corresponding being regarded as alive; and this is the philosophical principal of fetichism. A man who smiles at the folly of the savage in taking the watch for an animal may, if wholly ignorant of watchmaking, find himself surprised into a state not so far superior, if any unforeseen and inexplicable effects should arise from some unperceived derangement of the mechanism. But for a widely-analogous experience, preparing him for such accidents and their interpretation, he could hardly resist the impression that the changes were tokens of the affections or caprices of an imaginary being."

Hitherto psychology has limited itself to the study of man alone, and even his nature has been regarded only from its intellectual side. The psychology of animals has yet to be studied. Notwithstanding that a knowledge of it would be of immense service to us (especially for any science of comparative psychology), and that there are analogies indicating that the development of mental and moral ideas in both man and the animals is much alike, the study must remain until the incandescent vapours that enshroud the sun have been analysed into their chemical constituents, and spectrum analyses of the fixed stars have been made. The resolution of distant nebulae brings tangible renown to the discoverer; stars are named after him, and he obtains the reward of immediate notoriety. The study of the psychical nature of animals involves much careful observation, much laborious and painstaking comparison; while the results do not invite the world's ignorant wonder and applause. The few modern *savans* who have devoted themselves to such a study—men such as Huber, Steenstrup, Kirby, Spence, and others—have left books the worth of which it is almost impossible to exaggerate; although the study has been pursued, like the studies of so many scientific specialists, in too absolute a spirit.

A great (perhaps the greatest) living naturalist, has exemplified the spirit with which such an inquiry should be conducted. Mr. Darwin discusses with philosophic quietness and evenness of temper the nice question of man's descent from the ape. That hypothesis may or may not be true (while the facts, analogies, and inferences given by Mr. Darwin in support of it are very considerable), but the student of Mr. Darwin's book cannot help feeling that the calmness and perfect candour with which it is written is worthy of the earnest votary of science, and that he exhibits a spirit which will be common only in better ages than ours.

It seems hardly necessary to repeat that naturalists must put out of sight altogether any supposed consequences their recorded facts, or inferences from the facts, may involve; and yet this is too frequently forgotten. They must reason only from the facts before them, and be anxious only to get at the truth as it is in science. They cannot arrive at this truth unless their minds be emptied of unscientific jargon and irrational hypotheses. They must rigorously discard all theological and metaphysical theories, and aught else that has no objective reality. When this has been done they are fit for investigations that demand the receptive and reflective mind, the seeing eye, and the delicate manipulating hand. There is an infirmity besetting philosophic observers—than which none is more hurtful—namely, that which prompts them to explain the psychical manifestations of the first of animals, by imagining to exist an entity (of whose essence or qualities they know nothing), over and above the organism before them. They must cure themselves of this, or relinquish the study, from sheer mental incapacity. Physical objects or relations must be explained in a physical way, or not at all. Psychical effects have physical causes. The observer who studies them in connexion with their environment will disregard other-worldism in explaining them. Recognising to the full the relativity of all human knowledge, he will scorn chimerical interpretations of natural phenomena.

There was little to distinguish the primitive savage from the animals he found here. He was every whit as wild, as restless, and as gregarious as they. The same passions agitated him, the same hunger drove him forth in search of food, and the same fear of a common danger made him often change his place of rest. His brain (as we have good reason for knowing from the skulls which have been found in caverns in many parts of Europe and elsewhere) was of a low, animal type, exhibiting an almost entire absence of those faculties which mark the brain of a normal civilised man. His perceptive (or intellectual) faculty must have been almost rudimentary; while the affective and nutritive faculties were in a more or less developed state—the latter perhaps most so. The first aspects of Nature to such a being were stern, rude, and harsh,—such, in fact, as made him painfully sensible of his feebleness and inaptness. He found himself constantly in the presence of forces and powers that threatened him with destruction—things that were all the more awful in that their causes were as unseen as they are unknown. Neither lightning, nor thunder, nor earthquake, nor cold, nor heat, nor wild animals, would spare him. He must be his own defender—his own providence. Hunger made him hunt. His numerous migrations brought him into contact with wild carnivorous

animals. These he must destroy. In efforts thus put forth, he continually found his need of weapons to supply his own deficiencies, muscular and other. Or: animals fleetier than he evaded his pursuit, and he must therefore train other animals equally swift to catch them. These last became his constant companions. Of course there remained unconquered animals, whose wiliness tasked his cunning, or whose strength was greater than his. Many of these he treated as superior beings, deserving fearful reverence. Selecting one of them, he named his family after it; hence sprung up "totem" worship. This worship, which perhaps is as ancient as any other, was kept alive by his descendants. It prevails amongst many savage communities to this day, as travellers testify. Of course the totem, or the animal after which the family or tribe was named, was rarely, if ever, killed. Did, however, such a fate happen to it in hunting, a thousand apologies were offered to its body, and it was gravely informed that it was the weapon that committed the deed, and not the person who carried it. Totemism, like most other religions, was prolonged long after all life had gone out of it; and its worship has well nigh lost all meaning to those savages who still practise it. Totemism is only a phase of fetichism, and that not the oldest. It is perhaps very difficult for us, at this distance of time, to do full justice to fetichism. From the standpoint of our so-called modern civilisation, it seems hardly possible to regard that stage of human progress with due respect. Not that fetichism is extinct even among us,—as the dislike of many millions of foolish persons to toads, snakes, frogs, serpents, lizards, newts, beetles, etc., too plainly testifies. To most of these harmless creatures feelings of malevolence are attributed,—as if their existence here was to work man ill.

It was in fetichistic times that separate families of mankind were brought into association, whereby man's social instincts were maintained in full vigour. To fetichism we owe agriculture, currency, the discovery of fire, the uses of clothing, and most of the arts that benefit man. To fetichism we owe language, as the root-words, and the words expressive of sounds and signs,—which are so largely to be found in ancient and modern languages,—bear witness.

The development of man's relations with the external world that fetichism produced was a moral one, inasmuch as it cultured the better part of his nature—his affections. Animals, trees, rivers, winds, clouds, moon, stars, and sun,—these, with a thousand other objects, he regarded with profound awe and love; and he made material images of many of them, to keep him in mind of them.

What little speculative faculty primitive man had was in full

activity, but his affective nature revealed to him many things indirectly, that his intellect would scarcely have perceived directly. His concepts were few and unrelated. They increased with, and were modified by, his ever-varying experiences. But despite its irrationality, as we view it (and all irrationality is relative), fetichism was immensely helpful in humanising man. Feeling profoundly that all modes of activity were due to a life such as that he himself possessed, he revered all alike. Did not he and the animals have everything in common? What had he that they had not? Indeed, were not many of them his superiors?—in that they were able to hurt him—and was he not habitually regarding them as such? It was left to later ages of intellectual pride and moral feebleness, to constitute man a patron of that animal kingdom of which he is but the chief animal.

The manly, kindly Arnold once wrote, "The mystery of the animal kingdom is painful to me." He could not conceive, I suppose, that all the moral goodness and intellectual power exhibited by the brutes were to be buried in their graves. Believing man to be reserved for a higher life, I imagine that it perplexed his noble spirit, whether they might not share it with him; especially as animals here, like man, did not meet with the reward befitting their qualities and endowments. On a subject of this nature the philosopher should say nothing. Man and the animals are physical and psychical products. More he knows not, and a modest silence therefore becomes him. If he permit himself to think or speak on the subject, he might express his surprise at the huge vanity of mankind in conceiving that *it* was worthy of a destiny or life from which the rest of the animal world were to be precluded.

It was said of Spinoza that he was a "God-intoxicated man"; and Mr. Mill has said of M. Comte that he is a "morality-intoxicated man". It is a noble reproach, and better deserved than most reproaches. The purpose of M. Comte's doctrines was to moralise all studies and action by giving them a social direction. Inheriting everything from the race, he reasoned, that we owed everything to it; and that our best services and finest thoughts should be rendered to humanity. Ever were men to keep before them "whose they are, and whom they serve." This teaching does not meet with much approval in these days, because it does not minister to the complacent pride of man. It does not exalt the intellect sufficiently, so intellectual men think: it sets an undue value on the affective nature—that which they possess with the common folk, and they do not like it. As in old times so now; they would be as gods KNOWING good and evil.

Man's whole nature surely needs moral discipline. In how many ways his intellect protests against all wise restraint! He *will* seek things absolutely, as if absolute knowledge were possible. He *will* devote himself to the study of *specialities*, albeit art is long and life fleeting. He dislikes large and general views, and spends a lifetime over the infinitely little. He will not give his studies a social direction. Man is not now the minister and interpreter of Nature for the benefit of his brother man so much as for his own. Great aims are subordinated to low ambition, and noble doing is postponed to vulgar fame. Hence the intellectual and (what is worse) moral anarchy of our time. It too often happens that, when you tell men of science to generalise from facts already stored, they reply that more facts are wanted, as if the heaping up of thousands of barren facts were knowledge, and not rather their organisation. Further, it is implied, if not directly stated, that all facts are equally important: which means, if it mean anything, that facts about the life and *habitat* of an actinia are as important as facts about man and his *environment*. Grave questions affecting the continuance of modern social life press upon us—such as crime, pauperism, education, capital and labour, and property—questions needing for their consideration and solution the best scientifically trained intellects. And by whom are these subjects being treated? By wealthy manufacturers; lawyers aspiring to office; retired tradesmen; scions of a worn-out nobility; colonels with the knowledge and training acquired on parade and at drill; and a crowd of the most ordinary and conventional persons that could possibly be got together in a given space. While the scientifically trained intellects already referred to are engaged in settling the atmosphere of the sun, and topics of kindred nature and value. I am far from saying that these topics are unworthy of their attention (although it may turn out so); but surely they should wait awhile till things of vaster import, *which affect the body politic and sociologic*, have been settled, or are in process of settlement. Of course there are exceptions. There are those who have not yet “bowed the knee to Baal”; whose highest and constant endeavour it is to serve their fellows in their day and generation.

The organic world depends on the inorganic, and to man alone it is given to use both worlds for moral ends. Not for *his* special behoof were either made; not as ministers to *his* pride and selfishness should either exist. Nor does Nature continue chiefly that man may exhibit feats of intellectual legerdemain. The minerals with which he makes his machinery—the water he converts into steam—the land that yields him crops—in fine, all the powers and forces that exist—belong to humanity as

a whole, and not to any single individual or number of individuals; and when these are subordinated to such low ends as the social advancement or degrading luxury of the few, they have lost all moral uses whatsoever. At all times and in all places this great truth must be remembered, or man may yet recur to a condition worse than that of Fetichism. He will lack the humanity that characterised that primitive condition, and no intellectual acquisitions, however great, will compensate for such a loss. Only so long as we use Nature for moral ends are we worthy of continuance here. The synergy of man's psychical functions produces glorious results, not their dispersion. He who would serve his kind must do it, as inculcated by the old religious precept, "with all his heart, mind, body, soul, and strength"—his whole being in fact.

So M. Comte thought, taught, lived, and died—loving and revering Humanity.

I hope, at some future time, to be permitted to show further what were M. Comte's contributions to the science of anthropology, especially sociology. I have been compelled, for the sake of clearness and precision, to limit myself to one aspect of his numerous teachings. How insufficiently I have presented that aspect, few here, perhaps, know as well as myself. One thing comforts and emboldens me: it is that great truths never suffer permanent injury, be they expounded by never so feeble an advocate.

DISCUSSION.

Mr. LEWIS said Mr. Kaines had come before the Institute with a paper on a subject, and from a point of view, to which he had given much more attention than most of his hearers. He had, however, made some statements in support of which he (Mr. Lewis) would like to hear a little evidence. One of these was to the effect that men and animals were passing through the same intellectual and moral development. Another was that some animals were fetichists, by which he understood the author to mean that they attributed to inanimate objects the passions and feelings of animate beings, and in support of which the author had said, that if a watch in motion were shown for the first time to a savage and an animal, both would regard it as a living creature, which was undoubtedly true, but did not, so far as he could see, bear upon the fetich question; and neither could he admit that a watch in motion was, for the purpose of that argument, to be regarded as a merely inanimate object. The last statement to which he would allude was to the effect that the brain of the early races of man was of a low animal type, and that this was proved by the remains found in European caverns, etc.; whereas his studies had led him to believe that the earliest skulls found in European caverns and elsewhere were not, on the whole, materially lower than those of the

racés now inhabiting the same countries, excepting, of course, the Neanderthal and other skulls, which were believed to be simply idiotic or abnormal. Mr. Lewis had no doubt that Mr. Kaines had accumulated a mass of evidence in support of his statements before making them, and he should be glad, therefore, as a student of anthropology, to hear what he had to say upon the points he had mentioned.

Mr. G. HARRIS said that the Anthropological Institute was much indebted to Mr. Kaines for the lucid and comprehensive exposition which he had afforded of the views of M. Comte. The consideration of animal nature had an important bearing upon that of man. Much as we differed from animals we had a great deal in common with them. Our feelings, our appetites and our passions, were the same as theirs; and they exhibited to a certain extent a moral sense as regarded the feeling of shame for the transgression of laws prescribed for their obedience. Professor De Quatrefages, in his valuable work on anthropology, had even gone so far as to point out that in animals there was a sentiment at any rate resembling, and analogous to, the religious feeling existent in man; inasmuch as they exhibited a reverence for man as a being superior to them, and obeyed him either through love or through fear, as man obeys the Supreme Being. In regard to what Mr. Kaines had said respecting Dr. Arnold's opinion upon animal nature, he (Mr. Harris) believed that it amounted to this. That animals appeared to be sent into the world to answer some great moral purposes with respect to man; and that it was not impossible that, even in a future state, their presence might be required to carry on and complete these same great moral ends. The study of natural history was calculated essentially to assist that of anthropology, and to aid the pursuit of the science in several important respects. Professor De Quatrefages said we ought not only to study animal, but vegetable nature, and the constitution, and even the instincts of beings of both classes might be serviceable in the study of the nature of man. He (Mr. Harris) hoped to hear some papers on the subject of natural history, more especially bearing on animal instinct and its relation to reason, read before the Institute, which might throw much light upon human nature, and open new tracks capable of being followed up with advantage.

Dr. COLLYER was not prepared for so intellectual a treat; the views advanced by Mr. Kaines were perfectly consonant with the great truths of nature, though they might jar with educational or conventional prejudices. The laws which govern animal existence were as certain and as unalterable as those which governed the more physical portions of the universe. It was true that by amalgamation of the original races, change of climetric influences, there might sometimes appear under these modified circumstances to be a change in the original race. It was evident that, in the progressive development, man could not have existed on the earth had not the condition been rendered suitable for his habitation by the prior existence of lower forms of organisation. There was always a strict relationship between the mental functions and nervous development; from the merest globular existence to the highest cerebral organisation. He felt con-

vinced that was an attribute equally possessed of the lower forms of life as in man, the limitation being, in each case, merely the result of organic conditions. The lower animals possess all the propensities, nearly all the sentiments, and most certainly some of the perceptive, and, in a degree, the reasoning faculties. Not to shut our eyes to the experience of every-day life, we are forced to the conclusion that dogs, elephants, horses, etc., possessed approbateness, pride, veneration, fear, hope, wonder, constructiveness, imitation, and a sense of right and wrong. The earth itself, at the various zones, had particular and special developments; any sudden transition from the original or native locality would be attended with the most baneful results, by the higher classes removing to inferior zones. The improvement of the inferior or lower was always confined to the cerebral development. The same law which prevented the advance of the lower races beyond the limit of their organisation also applied to the inferior animals. Education had the same relative effect on animals; and that their young were easily trained was shown in the case of the pointer, the spaniel, and setter; they came into existence with a nervous system predisposed to receive impressions resulting from the education of their parents, the limit being only the result of their special nervous system.

Mr. HYDE CLARKE expressed his hope that the proposition he had made to the Ethnological Society, and which was incorporated in their programme, of a Section for Comparative Psychology, would be carried out by the Institute. It would be of great utility, and had the promise of considerable support. The study of the minds of animals would throw great light on the operations of the human mind, and particularly in the consideration of its development in early ages. The superstitions of dogs, horses, etc., were particularly deserving of attention in this respect, as they represented phenomena of animism.

Mr. QUARITCH regretted to differ in opinion from Mr. Kaines and the gentlemen who preceded him. But, before he expressed any idea upon that head, he would call attention to the real functions and objects of the Institute. The proper study of anthropologists was Man; and he did not think that this study was at all furthered by a discussion upon the nature, instinct, and habits of the lower animals, whether we regarded them in their modern and familiar species, or endeavoured to construct ideas of their remote and prehistoric existences. There was a prosperous and industrious society of naturalists in London, who had made and were still making successful researches into the history of animal life; and anthropologists should not try to usurp any of the functions of the Zoological Society. The natural history of man, as man, was the science upon which our attention ought to be concentrated. It might, however, be proper to express his individual opinion upon the matter mentioned by Mr. Kaines; with regard to the Darwinian theory, apparently adopted by that gentleman, that man has been developed by graduation from lower organisms. He ought not, perhaps, to express before men tutored in the impassiveness of science his own inner sense of the

dignity of manhood, the feeling which made him revolt from such a theory. But he could conscientiously state that he found a less difference physically and intellectually between man in his highest and man in his most barbarous state, than he did between the utmost effort of sagacity in the best developed of the lower animals, and the ordinary exercise of mental gifts in even the most ignorant specimens of humanity. Man needed only association with his fellows in an organised commonwealth, to attain the highest development of his faculties, mental and physical, and to be such as he seemed in ancient Greece in the days of Socrates, Plato, and Aristotle, when art, philosophy, poetry, and literary culture reached a height which even now we look upon with envy and wonder. Our knowledge of facts had increased since then, our discoveries in science had been multiplied, but there had certainly been no advance in mental power and in physical conformation. The gradual-development theory would find that fact a stubborn one, and very difficult to answer. Some men were "for the angels," and some "for the monkeys"—to use a phrase that had excited amusement; but he thought it as unjustifiable to identify our nature with the angelic beings whom science properly ignores, as to base a determined partisanship the other way upon structural resemblances between man and the lower orders of animals. That was the tendency of the present day, and one that ought to be strongly deprecated, until at least the inexplicable problem of man's intellectual activity and *constructiveness* had been first assailed. For himself, he was content to remain in the belief that his ancestors had always been of his own kind; whether as hunters, labourers, or highwaymen, or whatever else they might have been in remote antiquity, he felt convinced that they were never otherwise than human, with the form, features, blood, strength, and weaknesses of man.

Mr. J. R. LEIFCHILD, while complimenting the writer of the paper, differed from him *in toto* on the merits of Comte's philosophy as a system of exposition of nature. Avoiding minute details, he maintained that, with reference to the alleged similarity in *kind* between the instinct or reasoning powers of animals and men, the whole Comtean and Darwinian argument is founded upon metaphysical confusions and evasions. The human mind possesses powers and faculties entirely distinct from and superior to those of lower animals; and the resemblances between them are simply and only resemblances. In the case of some of the more important human faculties, nothing more than the most shadowy resemblance existed, as, for instance, in the case of the moral sense. Passing from moral to intellectual endowments, the human faculty of abstract conception was adduced as not having even a shadowy resemblance in brutes. No instances could be given of one abstractive faculty in even the most sagacious brutes. Examples of this mode of reasoning in man were mentioned to show how they differed from all mere instincts in animals. The speaker enumerated one or two other distinctive human faculties, and concluded by saying that a careful study of comparative psychology would show that any theory of continuous mental development upward from lower

animals to man by natural evolution must inevitably give way under a rigorous philosophical analysis of psychical qualities.

The CHAIRMAN thought the Society was indebted to Mr. Kaines for a really anthropological paper; a paper with which he (the Chairman) for the most part agreed. Of course the author did not profess to do more than give an introduction to the philosophy of Comte, but on a future occasion he would no doubt enter more fully into the subject. He (the Chairman) objected to Comte's use of the word *sociology*, which was a Latino-Greek compound. A more appropriate term would have been *etærology*; and, perhaps, a still better one, that of *anthropology* itself.

The meeting then separated.

JAN. 1ST, 1872.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

THE Minutes of the last Meeting were read and confirmed.

The following new members were announced: ROBERT THAL-
LON, Esq., 11, Chester Terrace, Regent's Park; and J. JEREMIAH,
jun., Esq., 43, Red Lion Street, Clerkenwell.

The following presents were announced, and the thanks of the
meeting voted to the respective donors:—

FOR THE LIBRARY.

From the SOCIETY.—Proceedings of the Royal Society, No. 130.

From the SOCIETY.—Proceedings of the Society of Antiquaries of
London, vol. v, No. 2.

From the EDITOR.—American Eclectic Medical Review, Nov. 1871.

From the AUTHOR.—The Literature of Kent's Cavern. By W. Pen-
gelly, Esq., F.R.S. Part 3.

From the EDITOR.—La Revue Scientifique, Dec. 23, 1871.

From the AUTHOR.—Proverbia Communia Syriaca. By Captain R.
F. Burton.

From the AUTHOR.—L'Ancienneté de l'Homme. By M. E. T. Hamy.

From the EDITOR.—Correspondenz-Blatt der Deutschen Gesellschaft
für Anthrop., Ethn., und Urgeschichte, Nos. 11 and 12.

Dr. GOYARD (member of the Anthropological Society of Paris)
presented, in the name and on behalf of Dr. Hamy, a copy of
his recent work, "Précis de Paléontologie Humaine". After a
short sketch of the nature of the work, and a biography of M.

Hamy, one of the most eminent pupils of Dr. Broca, whose opinions he shared, Dr. Goyard described the history of the formation of the Anthropological Society of Paris, and the friendly ties which united it with the sister Institute of London.

The following paper was read :

The ADAMITES. By C. STANILAND WAKE, Esq., Dir. A. I.

MUCH has from time to time been written as to the distinction between the Adamites and the pre-Adamites, although little has been done to identify the members of the two great divisions into which the human race has been thus divided. Those who accept the deluge of Noah as a historical fact, stated however in terms too wide, may say generally that all the descendants of this patriarch are, as such, Adamites, while the pre-Adamites comprise the peoples of the primitive area inhabited by the dark races, supposed by some writers to be referred to in the Hebrew Scriptures under the term *ish*, "the sons of man," as distinguished from the sons of Adam. Little value, however, can be attached to such a general statement as this. Supposing Noah to have been a second common father of the race, we are still ignorant as to what peoples are to be classed among his descendants. No doubt the *Toldoth Beni Noah* of Genesis throws considerable light on this question. According to that genealogical table the whole earth was divided after the flood among the families of the three sons of Noah—Shem, Ham, and Japheth. It is not necessary here to identify the peoples described as the descendants of these patriarchs. It will suffice to say that Professor Rawlinson, who differs only in one or two particulars from other recent authorities, writes as to the distribution of those peoples:—"Whereas the Japhetic and Hamitic races are geographically contiguous, the former spread over all the northern regions known to the genealogist—Greece, Thrace, Scythia, most of Asia Minor, Armenia, and Media; the latter over all the south and the south-west, North Africa, Egypt, Nubia, Ethiopia, Southern and South-eastern Arabia, and Babylonia—so the Semitic races are located in what may be called one region, that region being the central one, lying intermediate between the Japhetic region upon the north and the Hamitic one upon the south."

Supposing the *Toldoth* to give an exact statement of the descendants of the three sons of Noah, it by no means follows that the peoples there referred to are alone entitled to be classed as Adamites, and I propose therefore, to see whether the latter can be identified by other evidence. Almost intuitively we turn, in the first place, to that region known as Chaldæa, which has furnished in our own days material so important for the recon-

struction of the annals of civilised man in the earliest historical period. Professor Rawlinson, indeed, at the Liverpool meeting of the British Association, held in 1870, sought to establish that the Garden of Eden of the Hebrew writers was none other than Babylonia; a hypothesis which certainly agrees with Sir Henry Rawlinson's statement that *Héa*, the third member of the primitive Chaldaean triad, may be connected with the Paradisaical traditions of the tree of knowledge and the tree of life. This would point to Chaldaea as the original home of the Adamites, unless, indeed, the traditions were derived from a still earlier centre, and it will be well to ascertain whether there is anything in the history of Babylon which directly connects them with the Adamic stock.

If we were to accept with Chwolson the great antiquity of "The Book of Nabathæan Agriculture," there would be no difficulty in assigning such a position to the Chaldæans. For this book not only expressly declares that they were the descendants of Adam, but in it Adam appears as the founder of agriculture in Babylon, acting the part of a civiliser, and hence named "The Father of Mankind". This agrees well with the Old Testament account of Adam as the first cultivator of the ground. M. Renan, however, would seem to have conclusively established the late date of the so-called Nabathæan work, showing that it contains legends as to Adam, Seth, Enoch, Noah, and Abraham, "analogous to those which they have in the apocryphal writings of the Jews and Christians, and subsequently in those of the Mussulmans,"—Adam being known to all the Moslem East as the "Father of Mankind".

We must seek, therefore, for some more reliable record of early Chaldaean history; and this we have in the stone monuments on which its annals were engraved. Sir Henry Rawlinson, on their authority, says of the Chaldæans of Babylonia that they were "a branch of the great Hamitic race of *Akkad*, which inhabited Babylonia from the earliest times. With this race originated the art of writing, the building of cities, the institution of a religious system, the cultivation of all science, and of astronomy in particular." The race affinity of the *Akkad* is not as yet settled, but some information as to this point may be gained from the name by which they were designated. This appears to be composed of two words *Ak(k)-ad*, the latter of which may be identified with the first syllable of the name Adam. As to the word *Ak*, some light may probably be thrown on its meaning by reference to the Celtic languages. Baldwin, without seeing its full bearing, makes the remark that the Dravidians of Southern India use *Mag*, as the Berbers and Gaels use *Mac* (*Mach*), the former word denoting "kindred" in all the Teutonic languages.

Now, it could be proved by many examples that the letter *M*, which is found at the beginning of certain words in various eastern languages, is often simply a prefix. This is especially the case in Hebrew and Arabic, and, therefore, probably in the more ancient languages with which they are allied. Such, at least, must be the case with the initial letter of the word *mach*, "son," as in Erse the *m* is wanting, and in Welsh the related word, having the sense of "a root or stem, lineage," is also simply *ach*. Thus *Ak(k)-Ad* may well be "the sons or lineage of Ad"; as Mac-Adam in Gaelic is "son of Adam." That the first syllable of this word had the signification here assigned to it is rendered extremely probable by another circumstance. It is well-known that the Welsh equivalent for *Mach*, in the sense of "son," is *Ap*; and so also we find that in Hebrew "son" is rendered by *ben* (the Assyrian *ban*), while in Arabic it is *ibn*. In these words the *b* is the root sound, and if son was expressed by *ak* in the old Akkad tongue, this would bear the same relation to the Semitic languages as the Welsh does to the Gaelic and Erse—*ak* and *ben* in the one class answering to *ach* and *ap* in the other. Nor is this view without positive support. The Hebrew has a word *ach* which expresses, not only the sense of "a brother," but also "one of the same kindred." In Assyrian *uk* means a "people," while *ak* signifies a "Creator;" these words being connected with the old Egyptian *uk*, and also *ahi*, "to live."

Nor is the idea that the Chaldean *Akkad* were literally "the sons of Ad" without historical basis. According to Berosus, the first Babylonian dynasty was Median. What people were referred to by this name is still undecided. Professor Rawlinson supposes that they were really the same as the so-called Aryan Medes of later history, while Sir Henry Rawlinson, although treating the later Medes as Aryan, yet considers those of Berosus to have belonged to a Turanian, or at least a mixed Scytho-Aryan, stock. Elsewhere Professor Rawlinson seems inclined to identify the Chaldean *Akkad* with these Medes, as a Turanian people who at a very early date conquered the Babylonian Cushites and mixed with them. This is, in fact, the conclusion which appears to be required by other considerations. The name by which the Medes are first noticed on the Assyrian monuments is *Mad*. But if the initial labial is removed, this name is reduced to the more simple form *Ad*; and, supposing the explanation given of the primitive name of the Chaldean race to be correct, the (*M*)*ad* who preceded them would really be the parent stock from which the *Akkad*, or Chaldeans, were derived. Confirmation of this notion may be supplied from another source. Among their Aryan neighbours the later Medes had the distinctive title of

Már. This, Sir Henry Rawlinson supposes to have given rise, "not only to the Persian traditions of Zohák and his snakes, but to the Armenian traditions also of the dragon dynasty of Media, the word *Már* having in Persian the signification of a snake." But this must have been through ignorance of the real origin of the title, which had reference rather to the lion than to the snake. The Arab historian, Massoudi, in accounting for the application to the city of Babylon of the name of *Iran-Sheher*, observes that, "according to some, the true orthography should be *Arian-Sheher*, which signifies in Nabathæan, "the city of Lions," and that "this name of Lion designated the kings of Assyria, who bore the general title of Nimrud." Sir Henry Rawlinson thinks that the title *Már* is Scythic, and, if so, there can be little doubt of its signification. The primitive meaning of *Ar* was "fire," from which the lion, as the symbol of the Sun-god was called *ari*, the Sun-god himself having a name *Ra*. Strictly, therefore, *Már* would denote "fire-worshippers," a title which, as is well-known, was especially applicable to the ancient Medes. The *Aryans* generally appear to have been Sun- or Fire-worshippers, and probably they received their name from this fact. This would seem to be much more probable than the ordinary derivation of the name Aryan from the root *ar*, "to plough"; and it would include the sense of "noble" preferred by Mr. Peile, "children of the Sun" being usually a special title of the priestly or royal caste.

Connected with this question is that of the origin of the name of the Greek god *Ares* (the Latin *Mars*). Among other grounds for inferring the Asiatic origin of this deity is his connection with Herakles. The Latin myth of Hercules and Cacus would seem, moreover, to require the identification of the former with Mars. Such would appear to be the case also in Chaldæan mythology. The Babylonian Mars was called *Nergal*, which is probably the same name as "Hercules," and Sir Henry Rawlinson suggests that the only distinction to be made between that deity and *Nin*, or Hercules, as gods of war and hunting, is that the former is more addicted to the chase of animals and the latter to that of mankind. That Hercules, or Herakles, was of Phœnician or Assyrian origin has been fully established by the learned researches of M. Raoul-Rochette, who has shown, moreover, that the proper name of that deity was *Sandan* or *Adanos* (*Adan*), a name which not only reminds us of Aduni, supposed by Professor Rawlinson to be a primeval Chaldæan deity, but also recalls that of the Median *Ad*, and even of the Hebrew *Adam*.

A remark made by Lajard strongly confirms the idea that the Latin war-god was derived from a similar source. This learned French writer accounts for the rapidity with which *Mazdæism*,

better known as the worship of Mithra, spread among the Romans, by supposing that it was in some way connected with their national worship. Probably a key to this connection may be found in the curious figures of Mithra which appear to have been peculiar to the Roman phase of Mazdëism. These figures, which are encircled by a serpent, unite to the human body and limbs, the head of the lion, and they might well be taken to represent Mars himself, since the title *Már*, which was distinctive of the Medes, not only conveyed the idea of a serpent, but was also, and more intimately, associated with the lion symbol of the Sun-god.

If the alliance thus sought to be established, through the title *Már*, between the Medes or *Mad*, and the other peoples of the so-called Aryan stock be correct, we may expect to find traces among some, at least, of these peoples of the primeval *Ad*. Nor will such expectation be disappointed. The Parsis of Bombay have a book called the "Desatir," the first part of which is entitled "the Book of the Great *Abad*," who is declared to have been the first ancestor of mankind. The authenticity of this book has been denied, as Mr. Baldwin thinks, however, on insufficient grounds. It is certainly strange, on the assumption of its being apocryphal, that such a name as *Abad* should have been given to the mythical head of the race. The meaning of the name is evidently "Father *Ad*," and there is nothing improbable in the Persians preserving a tradition of the mythical ancestor, whose memory was retained in the national name of the Medes, a people with whom they were so closely connected. It simply confirms the conclusion before arrived at, that they also must be classed among the Adamites.

The Hindus themselves would seem not to be without a remembrance of the mythical ancestor of the Adamic stock. The Puránas, which, notwithstanding their modern form, doubtless retain many old legends, refers to the reign of King *It* or *Ait*, as an avatar of Mahadeva (*Siva*), who is a form of Saturn. Assuming that the information given to Wilford as to the reign of this king in Egypt ought to be rejected; yet, as *Aetus* is mentioned by Greek writers as a Hindu, we must suppose such information to have been founded on actual statements contained in the Puránas. These certainly refer to the *Yáduvas*, descendants of *Yadu*, supposed emigrants to Abyssinia, whose character, as described in the Puránas, agrees well, says Wilford, with that ascribed "by the ancients to the genuine Ethiopians, who are said by Stephanus of Byzantium, by Eusebius, by Philostratus, by Eustathius, and others, to have come originally from India under the guidance of *Aetus* or *Yátu*," whom they believed to be the same as King *Ait*.

Nor do the Celtic peoples appear to be without a traditional remembrance of the mythical ancestor. Mr. Maclean says that the fair race who first settled in Western Europe were called *Gaidal*, a name which he derives from two words meaning "a bright or clear man." A much more probable derivation, however, may be given. *Al* signifies "progeny," and hence *Gaid-al* is the progeny of *Gaid*. But the initial letter is only a prefix, and hence the name means simply "the progeny or descendants of *Aid*, i.e., *Ad*." The Welsh have preserved the same name as *Gwyddil*, "the descendants of *Gwydd*, or *Wydd*." Moreover, the leading Celtic people of Gaul, in the time of Cæsar, were the *Ædin*, and Davies thought that their name was derived from *Aedd* the Great, whom he finds referred to in the Welsh triads, and whom he identifies with *Aides* or *Dis*. Cæsar, indeed, says that the god *Dis* was the mythical ancestor of the Gauls. The position occupied by this deity in the traditions of the Celtic race is very remarkable, when we consider that a divine personage bearing the same name was known, not only to the Greeks, but apparently also to the Babylonians. Sir Henry Rawlinson points out that *Dis* should be one of the names of *Anu*, the first member of the leading Chaldean triad, and the deity who answered to *Hades* or *Pluto*. *Warka* or *Urka*, the great necropolis of Babylon, was especially dedicated to *Anu*, and Sir Henry Rawlinson remarks on this:—"Can the coincidence then be merely accidental between *Dis*, the Lord of *Urka*, the City of the Dead, and *Dis*, the King of *Orcus* or *Hades*?" Most certainly not, as it is only one of many circumstances which prove the close connection of the Greeks and other Aryan peoples with the ancient Babylonians. The original character of *Dis*, "Lord of the Dead," was probably the same as that of the Gallic *Dis*, i.e., the mythical ancestor of the race. A similar change of character has been undergone by the Hindu *Yama*.

It is very probable that in the divine ancestor *Dis*, as in the mythical King *It* of the Hindus, we have a reference to the primeval *Ad* [*Adonai*, "Our Lord," was converted by the Greeks into *Adoneus*, as a synonym of *Pluto*, i.e. *Dis* (King's "Gnostics," p. 101). Through his name, *Sandan* or *Adanos*, these deities are connected with *Hercules*, and hence with *Ares* (Mars)], whose name has been traced in that of the Gauls—*G-aid-al*. This identification, however, is not essential. A common relationship as Adamites may be shown, as well by association with the Medes through their title *Már*, as by preservation of a tradition of the common ancestor.

The result, so far, is that not only the Persians, Greeks, and Romans, and probably the Hindus, but also the Celtic peoples have been connected with the Medes or *Mad*, and through them

with the *Akkad*. But among peoples supposed to be still more nearly allied to the Chaldeans, we may expect to find references to the mythical ancestor of the Adamic division of mankind. According to old tradition, indeed, *Ad* himself was the primeval father of the original Arab stock. Moreover, the dialect of the Mahrah, where pure Arab blood is supposed still to exist, is called the language of *Ad*. It can hardly be doubted that a reference to the same mythical personage is also contained in the name of the great deity of the Syrians, *Adad*, "King of Kings," whose title implies the idea of "fatherhood." Nor are there wanting traces of the primeval *Ad* among the Egyptians. Mr. William Osburn states that the name of the local god of On or Heliopolis "is written on the monuments with the characters representing the sound *a, t, m*." This God was associated with the setting sun, and he was placed with the gods of the other cities of the Delta, a distinction he received, says Osburn, "for the triple reason, that he was the local god of the capital city, that he was the father of mankind, and that he was the ruler and guide of the sun, the common dispenser of earthly blessings to all men." *Atum* thus becomes identified with the Hebrew *Adam*, and although the description given by Osburn of the Egyptian deity may require some qualification, yet that identification is strengthened rather than weakened by other considerations. Bunsen says that the office of *Atum* in the lower world is that of a judge, and he supposes from this that at one time he may have been a Disputer. He does, indeed, bear much the same relation to man as *Dis* himself. In the Ritual of the Dead, the souls call him father, and he addresses them as children. Sir Gardner Wilkinson says that *Atum*, or *Atmoo*, is always figured with a human head and painted of a red colour. This seems to confirm the idea derived from his name, that this deity was related to the Hebrew *Adam*, with whom the idea of *ruddiness* was undoubtedly associated. The human form of the Egyptian *Atum* shows, moreover, that he was considered as peculiarly connected with man.

It has now been shown that not only are the peoples mentioned in the *Toldoth Beni Noah* rightly classed as descendants of the mythical *Ad*, but that the Asiatic Aryans, with the allied peoples of Europe to the furthest limits of the Celtic area, may also well be thus described. The ancient *Mad* belonged, however, to the great Scythic stock, and hence all the Turanian peoples, including the Chinese, may doubtless be classed among the Adamites. Professor Max Müller states that the Chinese *Tien*, heaven, with which the Hunnish *tang-li* and the Mongolian *tengri* are identifiable, is compounded of *ta*, great, and *yih*, one: meaning "the One, the Exalted." The Laps, however, have a

god, *Radien*, answering to the Celtic *Adien*, and we may have in the initial syllables of these words a point of connection with the mythical *Ad*.

There is some ground, therefore, for asserting that the Adamites include all the so-called Turanian and Aryan peoples of Asia and Europe, with the Hamitic and Semitic peoples of Western Asia and Northern Africa—in fact, the yellow, the red, and the white races, as distinguished from the darker peoples of the tropics. But even these limits may perhaps be extended. One of the solar heroes of the Volsung Tale is *Atli*, who becomes the second husband of Gudrun, the widow of Sigurd, Sigurd himself being the slayer of the dragon Fafnir, who symbolises the darkness or cold of a northern winter—the Vritra of Hindu mythology. This dragon enemy of Indra was also called *Ahi*, the strangling snake, who appears again as *Atri*, and Mr. Cox supposes that the name *Atri* may be the same as the *Atli* of the Volsung Tale. *Atli*, who in the Nibelung song is called *Etzel*, overpowers the chieftains of Niflheim, who refused to give up the golden treasures which Sigurd had won from the dragon, and he throws them into a pit full of snakes.

The connection of the Teutonic hero with the serpent is remarkable; for in the Mexican mythology we met with a divinity having almost the same name, and associated with the same animal. Humboldt tells us that the Great Spirit of the Toltecks was called *Teotl*; and Hardwicke says that *Teotl* was the only God of Central America. If so, however, he was a serpent deity, for the temples of Yucatan were undoubtedly dedicated to a deity of that nature. It is not improbable, however, that *Teotl* was really a generic term, agreeing in this respect, as curiously enough in its form, with the Phœnician *Taaut* (*Thoth*).

The God to whom the temples of Yucatan were really dedicated appears to be *Quetzal-coatl*, by some writers called the feathered serpent, a title belonging rather to his serpent-father *Tonacatl-coatl*. This *Quetzal-coatl* was the mysterious stranger who, according to tradition, founded the civilisation of Mexico, agreeing thus in his character of a god of wisdom with the Egyptian *Thoth*; reminding us of the resemblance of the name of this deity to that of the Toltec *Teotl*. But the first part of the name of the Mexican *Quetzal-coatl* no less resembles that borne by the Teutonic deity, *Etzel*. *Co-atl* signifies the “serpent,” while *quetzal* would seem to have reference to the male principle; and thus the idea expressed in the name of the Mexican god is the male principle represented as a serpent. *Quetzal-coatl*, moreover, is said to be an incarnation of *Tonacatl-coatl*, who is the male-serpent, his wife being called *Cihua-coatl*, meaning, literally, the “woman of the serpent,” or “female serpent.” In

the identification, then, of *Atli* or *Etzel*, who consigns his enemies to the pit of serpents, with the great serpent *Ahi* himself, we have a ground of identification of the Teutonic deity with the Mexican serpent-god *Quetzal-coatl*. This view loses none of its probability if the latter is, as Mr. Squire asserts, an incarnation of the serpent-sun, or rather a serpent incarnation of the sun-god, since *Ahi* himself is a solar deity. [In the religious symbols used by the Mexicans, we have another point of contact with the Asiatic deities. The sacred *Tau* of antiquity has its counterpart on the Mexican monuments. The Mexican symbol perfectly represents the cross form of the *Tau*, but it is composed of two serpents entwined, somewhat as in the caduceus of Mercury. That the *Tau* itself had such an origin we can well believe, seeing that the name of the letter *Tet* (*θητα*) of the Phœnician alphabet specially associated with *Thoth*, of whom the *Tau* is a symbol, is that of the God himself, as well as meaning "serpent."]

If the comparison thus made between the Mexican and Teutonic mythologies is correct, the further analogies pointed out by M. Brasseur de Bourbourg may be well founded. Thus the Mexican *Votan* or *Odon*, supposed to be the same as *Quetzalcoatl*, may be in reality none other than the Scandinavian *Odin*, *Woden*, or *Wuotan*, who also was a sun-god; and whose name seems to be connected, through the root *wad*, with the Semitic *ata*, to come, with which there is reason to believe the name of the mythical *Ad* may also be connected.

Nor is there wanting confirmative evidence of such an affinity between the peoples of the Old and the New Worlds as that supposed. Mr. Tylor, in his recent work, points out that the Roman game of *bucca-bucca*, referred to in a passage of Petronius, is still retained as the English nursery game; "Buck, buck, how many horns do I hold up?" The meaning of this formula is not given, but, from the fact that the witch's devil of the middle ages was represented as a buck or goat, we can hardly doubt that the buck or bucca of the game referred to the evil spirit. The devil was, indeed, called by the Cornish Celts *bucka* (Welsh *bwg*), a hobgoblin, a name which is evidently connected with the Russian *buka*, a sprite, and with the *Bog* of Slavonic and allied languages. We have, no doubt, the same word in the name of the Finnic sky-god *Ukko*. Of this again we seem to have traces, not only in the Kalmuck *Bürkhan* and the Mantchoo *Ab-ka*, but also in the Hottentot *Tegoa* (Kafir, *Tiar*, the Supreme God; and in the word *yakko*, demon, the name given to the aborigines of Ceylon by their Hindu conquerors. But the root of this word is met with again among the American tribes. The Hurons believe the sky to be an *oki*, or demon; this name being

also that by which the natives of Virginia knew their chief god. The same word appears to enter into the name of the Algonquin god of the North Wind, *Kabibon-okka*, as also of the Muyscan Moon goddess, *Huyth-aca*. Whether the Algonquin Great Spirit, *Kitchi Manitu*, has preserved the same word, is questionable; but it is noticeable that in the mythology of Kamtschatka the first man is called *Haetsh*, and he is the son of *Kutka*, the Creator, whose name, by the allowable change of *t* for *k*, becomes almost the same as the Finnic *Ukko*. The word *oki* may, moreover, be found with merely the vowel change, among the Islanders of the Pacific. Thus the Polynesian fire-god is *Mahu-ika*, the last syllable of which is doubtless connected with *akua*, meaning, like the American *oki*, spirit, or demon. The same root is met with again in *Tiki*, the Rarotongan form of *Mau*, the divine ancestor of the New Zealanders, and the *Tii* of the Society Islands; also in *Akea* the name of the mythical first king of Hawaii. *Tiki* is probably only another form of *Ta-ata*, with the change of *k* for *t* (as in *akua* for *atua*); and it is remarkable that this name of the Polynesian First Man is really that of the mythical ancestor of the Adamites, reversed, however, and with the addition of the word *ata* (*aka*), spirit, which I have shown to be connected with the name for God among so many independent races.

These mythological coincidences are, indeed, so strongly supported by similarity of customs and linguistic affinities, that there can be no difficulty in classing the Mexicans, and kindred American peoples, and even the lighter Polynesians, with the Adamites. This being so, a still broader generalisation than any yet attempted may be made as to the peoples to be included in the Adamic division of the human race. The simplest classification of mankind, according to cranial conformation, is that of Retzius into dolichocephali, or long-heads, and brachycephali, or short heads. The Mexicans, and other peoples of the western part of the American continent, belong to the latter category, as do also the inhabitants of the greater part of the area of Asia and Europe. In China, and in the southern part of Asia as well as of Europe, the various peoples are chiefly long-headed, and this is the case with the Hamitic population of Northern Africa. The latter are, however, certainly much mixed with the native African element, which is purely dolichocephalic, exhibiting traces of its prognathism; and it is far from improbable that originally they were brachycephalic, like the allied peoples of Western Asia. Such also, would I suggest, was the case with the long-headed but orthognathous European and Asiatic peoples we know as Aryans; and with the Chinese and the lighter Polynesians, who are now mostly dolichocephalic. Throughout all the regions where these peoples are found there would appear to

have been an indigenous long-headed stock, which has more or less nearly absorbed the brachycephalic element, which was introduced long ages ago from the vast regions of Central Asia, and which, for want of a better term, may be called Scythic. Subject to this qualification, it may probably be said that Adamic and short-headed are synonymous terms, and that among the descendants of Father *Ad* may, therefore, be classed all the peoples who are embraced in the great brachycephalic division of mankind, or, who would have belonged to it, if they had not been physically modified by contact with peoples of the more primitive dolichocephalic area.

How far the Adamites have trespassed on this area it is difficult to determine. That they have become mixed with the peoples of the African continent to a much larger extent than is usually supposed I fully believe. The Hottentots, at its extreme limit, are no doubt a residual deposit of such intermixture; while the great family to which the Kafirs belong furnish evidence of it in various particulars. The Adamites appear also to have spread throughout the archipelagos of the Pacific, furnishing an explanation of the many customs and myths in which the Polynesian Islanders agree with Asiatic peoples. Nor are the Adamites much less widely spread throughout the American continent. Apart from what Professor Busk affirms, that a broad type of head is to be met with on the coast all round South America, peoples allied to those of Mexico and Central America would seem to have occupied many of the West Indian Islands, and to have penetrated through the central portion of North America to the Great Lakes. Wherever the Adamites have come into contact with the long-headed pre-Adamic stock, they have either made these to disappear, or, while having their physical structure somewhat modified by intermixture, they have established a supremacy due to their greater vigour and mental energy. It is difficult, indeed, to say where the descendants of *Ad* are not now to be met with, or where the pre-Adamite is to be found uninfluenced by contact with them.

Before concluding, it will be well to endeavour to ascertain the origin of the tradition as to *Adam* or Father *Ad*. According to usually received teaching, Adam and Eve were the actual first parents of the human race, or, at all events, of the Adamic portion of it. Whether or not this idea is correct I shall consider as briefly as possible, premising that if, as Bunsen suggests, the existence of the other antediluvian patriarchs be mythical, so also must be that of the Adam from whom they are said to have sprung.

The Semitic word *ADaM* conveys several ideas. In the form *Adamah* or *Adami* it has reference to the *earth* or *soil*, but its

primary sense was either "red" or "man". Probably a double meaning was conveyed in the name of the Egyptian god *Atum*, whose representation was that of a red man. It must be noted, however, that the traditional ancestor is usually styled, not Adam, but simply *Ad*; and this primitive root may have had some other signification, analogous perhaps to that of *Eve* (*Hhavvâh*), "the mother of all living." This word, which denotes "life", is from *hhayâh*, to live, to give life—the allied word in Arabic being *haywân*, and the Arabic name for Eve becoming *hawwa*. Now, in the Celtic dialects, *ad* forms the root of words denoting vegetable vitality. In Welsh, moreover, it is one of the elements of *tad*, a father; the other element, *ta*, denoting, among allied senses, "a supreme one", reminding us of the Chinese *ta*, great; and connected with it being *tras*, kindred, affinity. Turning, however, to Eastern languages, we find that the old Egyptian had a word *ti*, with a sense analogous to that of the Welsh *ta*; and also a verb *ta*, to give, which is found in Hebrew, as *'athah*, to come, and in Arabic as *'ata*, to give, or to bring forth. It is evident that the primitive root, consisting of the dental *t* or *d*, preceded or followed by a vowel sound, had associated with it the idea of activity, and probably of paternity. Thus it seems to form the final syllable of the Sanscrit *pi-ta*, a father, a word which is found under somewhat varying forms in the several Teutonic and other Aryan languages. In the old Akkad speech, indeed, *ad* itself signifies "a father", and we are justified, therefore, in supposing that when this word was used as the name of the mythical common ancestor, it had a sense analogous to that which "Eve" expressed, *i.e.*, "the father of life, or of all living." In Adam and Eve, therefore, we may have a reference to the male and female principles which, in the philosophy of the ancients, as in that of the Chinese and some other Eastern peoples, pervade all nature, and originate all things, applied, particularly, however, to the human race. But Adam was not the name given at first to this mythical father of the race. The Egyptian *Atum* was originally a cosmogonic deity. Bunsen states that the name of this god may be resolved into *At-Mu*, meaning "Creator of the mother or night". The sense of this, however, is not very apparent, and I would suggest that the term *Adam* (in Egyptian *Atum*) was formed by the combination of the primitive *akkad* words *Ad*, father, and *Dam*, mother. It would thus originally express a dual idea, agreeably to the statement in Gen. v, 2, that male and female were called "Adam". This agrees perfectly with the Persian tradition which made the first human being androgynous. When the dual idea expressed in the name was forgotten, Adam became the Great Father, the Great Mother receiving the name of Eve (*Hhavvah*), *i.e.*, living or life.

DISCUSSION.

Mr. LEWIS said that the classification of the human race by the form of the skull only would be very simple and convenient were there no other characteristics to be regarded; but the colours of eyes, hair, and skin seemed to him to be equally important, and were found in almost all varieties with all kinds of skulls; and if he accepted the author's theory that these varieties were the result of the mixture of the broad-headed descendants of Adam with those of some long-headed people existing before him, he would rather go a step further and uphold the unity of the whole of humanity. With respect to Aedd (which he thought was pronounced Aeth), he believed the Welsh identified him with Æneas the Trojan.

Dr. CARTER BLAKE, while agreeing that Mr. Wake's paper was most suggestive, failed to see the direct connexion between "Ad" and the brachycephalic races. If there was such a person as "Ad," we only knew of him by Shemitic tradition; and the Hebrews, who claimed especially to be descendants of Ad-am, were undoubtedly dolichocephalous. He glanced over the principal characters of the Phœnician, Assyrian, and Syrian skulls, which also appeared to have been dolichocephalous, and protested against the assumption that any Mongoloid affinity was shown by the Chaldeans, so far as any present information was before us. The theory that the Chinese, as a whole, were dolichocephalous, was met by the measurements of many crania from Southern China, which showed resemblances to the Siamese, the Burmese, and even to the Malay. In America, also, Dr. Carter-Blake could not see the relationship between the brachycephalous races of the high mountains of the west and the Chaldeans, or Akkad. With regard to the Egyptian deity At-um, which was painted red, we must remember that there is a tendency in all tropical and subtropical dark-haired races to exaggerate the beauty and almost to deify the xanthochroic, or light-haired individuals. Those in South America who were called *rubio* or *rojo* were especially sought out in marriage, and regarded with greater respect by the more common dark-haired races, and might, by the tendency of man to deify the exceptional or the rare, in time become deities.

Dr. CHARNOCK was satisfied with the usual derivation of the name *Adam* from a Hebrew word signifying "to be red," "to be beautiful," and as a noun "man," but he did not deny that it might come from a name "*Ad*." It seemed to be admitted on all hands that Noah was deified at Babylon soon after his death, and Noah is found in proper names under the form of *Anu* or *Ani*, as in Telani, etc. It was stated that the Keltic *ad* formed the root of words denoting vegetable vitality, and that in Welsh it is one of the elements of the vocable *tad*, the other element being possibly connected with the Chinese *ta*; but synonymous words are found in the Gotho-Teutonic languages. The first part of the word has nothing to do with the Chinese *ta* (great), and *tad* is simply an extension of *ta*, which like *da*, *pa*, *ma*, is one of the first sounds uttered by in-

fants. Neither did he (Dr. Charnock) see the force of connecting the Scandinavian Odin either with the Mexican root *votan* or *odon*, or the Semitic *ata*, "to come." There was no pretence for Mr. Maclean's rendering of the name *Gaidal* "bright or fair man." It is derived from an old word *al*, signifying "other," "foreigner" (from *alius*, ἄλλος). With a prefix we get *Gal*, *Gael*, *Galli*, *Walli*, *Welsh*, and also Γαλάται, Κέλται, Kelt. He agreed with the author of the paper as to the prefix *m*. He (Dr. Charnock) had also found it as a prefix in river names, as the Mosa in Italy, and the Mosa, Maas, or Meuse, in Holland, etc., which were simply Ouse or Oise, with *m* prefixed.

The PRESIDENT said that, even those who, like himself, were not prepared to accept Mr. Wake's conclusions, would, he was sure, agree that the subject was one of very great interest.

Mr. WAKE, in reply, said that he was prepared to hear many of his conclusions dissented from, especially that as to a mythological connection between the Mexicans and Scandinavians. The whole subject was, however, worthy of being thoroughly examined, and if this were the result of his paper, the object with which it had been written would be attained.

The PRESIDENT announced that the auditors of the accounts for 1871 were Mr. H. G. Bohn and Mr. Archibald Hamilton; and adjourned the meeting till February 5th.

ANNIVERSARY MEETING.

JANUARY 15TH, 1872.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

THE minutes of the last general meeting were read and confirmed.

THE TREASURER submitted his Statement of Accounts for 1871. (See next page.)

THE PRESIDENT appointed as Scrutineers of the Ballot, Mr. W. D. Child and Mr. Richard B. Martin, and declared the ballot to be then open.

The following Report was read:

ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND.

Abstract of the Treasurer's Statement of Income and Expenditure for the year 1871.

VOL. I.

RECEIPTS.

Balance at formation of Institute, after deducting subscriptions for 1871, received prior to the amalgamation:

Anthropological Society	26 5 3
Ethnological Society	33 14 1
	<hr/>

Subscriptions received, 1871.....
Life Composition

59 19 4

927 9 3

21 0 0

Payment on account of Arrears of Subscriptions:

Anthropological Society	56 16 0
Ethnological Society	19 19 0
	<hr/>

76 15 0

Sales of Publications:

Anthropological Society	50 6 6
Ethnological Society	13 10 6
	<hr/>

63 17 0

Sale of weapons

2 10 0

£1151 10 7

Treasurer's Financial Statement.

377

PAYMENTS.

By payments on account of Anthropological Society

373 8 6

" " Ethnological Society ..

151 19 3

By cost of publications, Anthropological Institute..

61 7 2

By sundry expenses.....

148 9 2

By salaries and commissions

182 3 2

Balance

234 3 4

£1151 10 7

C C

REPORT of the COUNCIL of the ANTHROPOLOGICAL INSTITUTE OF
GREAT BRITAIN AND IRELAND for 1871.

IN making their first Annual Report to the members of the Institute, the Council feel that they can do little more than present a simple record of facts. Although convinced that the union of the Ethnological and Anthropological Societies can only result in the advancement of the important science of man, yet how far this anticipation would be at once realised was of course somewhat uncertain.

The Institute may be congratulated on the number and quality of the papers read before it during the past year. They are as follows :

- On the Development of Relationships. By Sir John Lubbock, Bart., M.P.
- The Racial Aspects of the Franco-Prussian War. By Mr. J. W. Jackson.
- On the Migrations of the Georgians, Circassians, and Amazons, and their connection with the Tibeto-Caucasian Race. By Mr. Hyde Clarke.
- On some recent Anatomical Writings bearing upon Anthropology, by Professor Luigi Calori of Bologna. By Dr. J. Barnard Davis.
- On the Builders of the Megalithic Monuments of Britain. By Mr. A. L. Lewis.
- On the Results obtained by the Settle Cave Exploration. By Mr. W. Boyd Dawkins.
- On the Position of the Australian Languages. By Dr. W. H. I. Bleek.
- A Comparative Table of the Australian Languages. By the Rev. G. Taplin.
- On the Mental Characteristics of Primitive Man as exhibited in the Aborigines of Australia. By Mr. C. Staniland Wake.
- The Stone Monuments of the Khasi Hill Tribes; and on some of the Peculiar Rites and Customs of the People. By Major Godwin-Austen, F.R.G.S.
- On Chinese Mohammedans. By Dr. James Anderson.
- On Dreams, Sympathy, Presentiment, and Divination, and other analogous Phenomena among the Natives of Natal. By the Rev. Dr. H. Callaway.
- On the Quissama Tribe of Angola. By Mr. F. G. H. Price.
- On the Races of Patagonia. By Lieut. George C. Musters, R.N.
- On Chinese Burials. By Dr. Eatwell.
- On the Mode of Preparing the Dead among the Natives of the Upper Murray River, Queensland. By Mr. Albert McDonald.
- On Forms of Ancient Interment in Antrim. By Dr. Sinclair Holden.
- On Analogies and Coincidences among Unconnected Nations. By Mr. Hodder M. Westropp.
- On the Order of Succession of the several Flint and Stone Implement Periods in England. By Mr. J. W. Flower, F.G.S., Treasurer.
- Notes on some Archaic Structures in the Isle of Man. By Mr. A. L. Lewis.
- On Anthropological Collections from the Holy Land. By Captain Richard F. Burton, F.R.G.S., late H. M.'s Consul at Damascus.
- Notes on Flint Implements from Bethlehem. By Mr. John Evans, F.R.S.
- Notes on Human Remains from Palmyra, etc. By Dr. C. Carter Blake.
- The Anthropology of Auguste Comte. By Mr. Joseph Kaines.

During the past year ten ordinary members of the Institute have died, and thirty-four have resigned. To fill up the vacancies thus created, forty-two new members have been elected.

The balance is slightly against the Institute; but this is not surprising when it is remembered that one result of the union of the two old Societies was the making of strong efforts to get in subscriptions from members in arrear, some of these members being thus induced to resign. In addition to these resignations, about seventy persons, the recovery of whose subscriptions in arrear may be considered as hopeless, have been struck off the list of members. The whole number of ordinary paying members who may be treated as good is 489, and life members 96; altogether 585. A revised list is in preparation, which it is hoped will be ready for issue to the members of the Institute at an early date.

The following gentlemen have become associated with the Institute; namely, W. S. W. Vaux, Esq., M.A., F.R.S., elected as an Honorary Member; Morton Allport, Esq., F.R.S., Tasmania, elected as a Corresponding Member; and George Lattimer, Esq., M.A.I., of Puerto Rico, and Logan D. H. Russell, Esq., M.D., of Bonny, West Coast of Africa, appointed Local Secretaries of the Institute.

Valuable additions to the Library have been received during the past year from the following public bodies and individuals:

W. McPherson, Esq.; Dr. J. Barnard Davis; Professor Steenstrup; Professor Semper; B. Quaritch, Esq.; W. A. Hammond, Esq.; G. Tate, Esq.; Dr. John Thurnam; Charles Darwin, Esq.; Lessel H. Griffin, Esq.; Dr. Richard King; C. O. Groom-Napier, Esq.; James Burnes, Esq.; Von H. Schaaffhausen; J. W. Jackson, Esq.; S. Phillips Day, Esq.; C. B. Radcliffe, Esq., M.D.; Dr. F. Bateman; Robert Dunn, Esq.; T. Squire Barrett, Esq.; E. Balfour, Esq.; Clements R. Markham, Esq., C.B.; Hon. E. G. Squier; Professor P. Mantegazza; Rev. John Campbell; J. F. Collingwood, Esq.; Major F. Millingen; Dr. Julius Haast; F. W. Rudler, Esq.; Gav. A. Garbiglietti; Professor G. E. V. Schneevoogt; M. L. A. J. Quetelet; Dr. John Shortt; J. A. Garfield, Esq.; Sir Roderick I. Murchison, Bart.; Captain Bedford Pim; Sir John Lubbock, Bart., M.P.; Hon. W. Owen Stanley, M.P.; Professor B. Gastaldi; M. Alglave; Professor A. Ecker; Dr. Crestadoro; J. A. Challice, Esq.; James Dowie, Esq.; Scott F. Surtees, Esq.; J. Williams, Esq.; M. A. de Quatrefages; Dr. R. H. Collyer; Rev. W. Harpley; W. H. Archer, Esq.; W. Pengelly, Esq., F.R.S.; Captain Richard F. Burton; Society of Antiquaries of London; Royal Society; Royal United Service Institution; Leeds Literary and Philosophical Society; Geological and Polytechnic Society of the West Riding of Yorkshire; Royal Academy of Sciences, Amsterdam; American Philosophical Society; Imperial Naturalists' Society of Moscow; Prudential Assurance Company; the Government of India; Royal Society of Victoria; Anthropological Society of Paris; Royal Geographical Society; Canadian Institute; Literary and Philosophical Society, Liverpool; the Dresden Academy; Peabody Academy of Science, U.S.; Essex Institute, U.S.; Museum of Comparative Zoology, U.S.; Boston Society of Natural History, U.S.; American Academy of Arts and Sciences; Smithsonian Institute; Board of Indian Commissioners; New Zealand Institute; Asiatic Society of Bengal; British Association; Philosophical Society of Glasgow; Royal Academy of Belgium; Imperial Academy of Sciences, Vienna; Royal Historical and Archæological Association of Ireland; Geologists' Association; Hungarian Academy of Science; Anthropological Society of Vienna; Royal Institution of Cornwall; Society of Antiquaries of Scotland; Asiatic Society of Great Britain and Ireland.

The Council desire, as early as possible, to provide for the members of the Institute a complete catalogue of the works comprised in its library, which contains many valuable books of reference.

The only publication yet issued by the Institute is the *Journal* of its proceedings. This, it is intended, shall appear quarterly. The first number was a double one, and comprised not only papers read before the Institute, but also all the papers and proceedings of the old Anthropological and Ethnological Societies up to the date of the formation of the Institute. Some delay in the appearance of the quarterly numbers of the *Journal* has taken place, owing to there being no matter left over on the publication of one number for the ensuing one. In course of time, however, this difficulty will no doubt be got rid of.

The Council intend, whenever the financial position of the Institute will permit, to issue a translation of the second volume of Waitz's "*Anthropologie*", which Captain Richard F. Burton has kindly offered to edit, with notes, for the Institute.

The Council is sorry to say that Mr. F. W. Rudler has during the past year resigned his office of Sub-editor of the *Journal*; and they have appointed the Secretary, Mr. J. Fred. Collingwood, to that office, leaving the amount of his remuneration for future consideration.

The Institute has continued the exchange of publications with the several Societies and individuals who received, under such an arrangement, the *Journals* of the Anthropological and Ethnological Societies.

In order to understand the financial position of the Institute, it is necessary to go back to the date of the union of the two Societies. The liabilities taken over by the Institute from them amounted to £1311:1:8, after deducting the cash in hand. The Council are glad to be able to report that this sum has been reduced (partly by the sale of stock on hand, and partly by various sums received in respect of the arrears of subscriptions) to the sum of £837:13:5, all of which except £10 is due for printing. To this must be added, however, the liabilities incurred during the past year, and still unpaid, for the cost of the *Journal* and otherwise, which amount to a further sum of £456:3:2, making a total of £1293:16:7; against which the Institute holds available assets to the extent of £281:14:4, in addition to the arrears of subscription not yet collected, and the stock of publications, which is of considerable value. The gross income of the Institute derived from subscriptions and sale of publications for 1871, etc., as appears from the Treasurer's statement, being about £950 per annum, and the estimated current expenditure being about £800 per annum, the in-

come of the Institute shows a satisfactory surplus, and there is every reason to hope that the liabilities will be rapidly diminished.

In conclusion, the Council would urge all its members to impress upon their friends the great importance and interest of the sciences of Anthropology and Ethnology, and to do whatever may lie in their power in order to promote the objects for which the Institute was formed.

On the motion of Mr. MONCURE D. CONWAY, seconded by Mr. J. W. JACKSON, the Report was unanimously adopted.

The PRESIDENT then delivered the Address.

GENTLEMEN,—Your Council have considered it desirable that the President should deliver an address at our annual general meeting, and, although on the present occasion I was disposed to think that our evening might have been more profitably employed, still I was bound to follow their wishes, as no doubt the course adopted this evening will form a precedent for the future. We may, gentlemen, I think, congratulate ourselves on the position in which at the end of our first year we find ourselves; and we have, I trust, every reason to hope that the Society has before it an useful and prosperous career.

The number of those who feel an interest in our science is rapidly increasing; not only the philosophic interest, but the practical political importance of the questions with which we deal, is becoming more and more widely recognised. Within the limits of an address, it is, of course, impossible that I should refer to all the publications bearing on our science which have appeared during the past year; nevertheless it may be convenient that I should on this occasion call your attention to some of the most important.

The Academy of Macon has published the researches of the late M. de Ferry,* whose death is so great a loss to our science, together with notes and an appendix by M. A. Arcelin, and an anthropological supplement by Dr. Pruner-Bey. M. de Ferry describes in detail, giving numerous figures, the flint implements

* "*Le Maconnais Préhistorique. Mémoire sur les âges primitifs de la Pierre, du Bronze et du Fer en Maconnais.*" Par H. de Ferry. Avec notes, additions et appendice par M. A. Arcelin; accompagné d'un supplément anthropologique par le Docteur Pruner-Bey.

found by him at Charbonnières, a locality which, both in richness and in some other respects, offers a great similarity to the still more remarkable district of Pressigny le Grand. The objects found, which include lance-heads, axes, hammers, discs, implements like those first observed at Moustier, awls, flakes, etc., are of well-characterised palæolithic forms; and it is remarkable that, though these types are so abundant at Charbonnières, and somewhat less so at Vergisson, they are very rare in the rest of the district; M. de Ferry having only found one here and there, though he has searched carefully during many years. It is also interesting that scrapers are extremely rare at Charbonnières; M. de Ferry has only met with two; he figures one of them, and though it was probably used for scraping, it does not resemble the scrapers of the Neolithic period. Indeed, I have never seen a typical scraper which could be referred with certainty to the earlier Stone Age.

Another station, that of Solutrè, had already been described by the same author in the Norwich volume of the "International Congress of Prehistoric Archaeology;" but we have now the advantage of several plates, which throw much light on the subject; giving us, for instance, a better idea of the flint implements; the characteristic forms of which are beautifully worked, leaf-shaped, lance-heads and arrow-heads. Some specimens, as, for instance, that figured in plate xxii, fig. 1, are almost worthy of Denmark. From the abundance of broken bones found at Solutrè, and other indications, the station was evidently a place of abode; and from the quantity of remains belonging to the reindeer, which, with the horse, formed the staple food of the inhabitants, M. de Ferry feels justified in referring the settlement to the so-called reindeer period. On the whole, the remains found at Solutrè bear a close resemblance to those of the Dordogne caves; and, as in that case, though the workmanship of the stone implements is finer than that which characterises palæolithic types, and the forms are different, still polished specimens are altogether wanting. Whether pottery was known during the so-called "Reindeer" period seems to be still doubtful. One or two fragments were found at Solutrè, but M. Arcelin expresses his doubts whether they belonged to the same period as the other

remains. It is true that M. Lartet mentions a piece of pottery as occurring in the cave of Aurignac; and M. Dupont met with fragments in most of the Belgian caves. These cases, however, are so exceptional that, on the whole, we have, I think, as yet no conclusive evidence that the use of pottery was known at this period. The men of Solutrè appear, like many northern nations of the present day, to have lived in sunk dwellings. This seems clear from the descriptions and plates given by MM. De Ferry and Arcelin; and they have also given strong reasons for concluding that the human remains found at Solutrè are those of persons buried in the pit-dwellings which they had occupied when alive. These remains are, therefore, really contemporaneous with the flint implements, etc.; a point on which I had hitherto entertained considerable doubt.

Under these circumstances the human remains possess great interest. They represent no less than sixty individuals, although the greater part of the burials had been destroyed by cultivation; and of those which remain, but few contained bones sufficiently entire to be of much use. Fortunately, however, several skulls have been recovered in an almost perfect condition; and, although there are differences among them as considerable as those between the Lapps and Finns, still Dr. Pruner-Bey finds that they all belong to the type characteristic of the circumpolar mongoloids of the present day.

The river Saône is gradually raising the plain through which it flows; and MM. De Ferry and Arcelin, taking the position of the Roman remains as a basis of calculation, have attempted to estimate the date of the neolithic and palæolithic periods. From a comparison of a number of cases, M. Ferry takes the accumulation since the Roman period to be 60 centimetres; the depth of the iron age remains to be 1.1mm.; of the bronze age layer 1.30; of the stone age, 1.50. This, he estimates, would give for the bronze age an antiquity of 3000 years; for the neolithic period of 4000 or 5000 years; while some of the palæolithic specimens would indicate a lapse of 9000 or 10,000 years. M. Arcelin adopts a somewhat different scale, assuming for the Roman layer a depth of 1m. deduced from 24 stations; he thus obtains for the Celtic iron age an antiquity of from 1800 to 2700 years; for the bronze

age, 2700 to 3600; for the neolithic, 3600 to 6700; for the palæolithic, 6700 to 8000. It is, however, unnecessary to point out how much of uncertainty, as well as of interest, there is in such calculations.

Sir Henry Maine's "Village Communities in the East and West," consisting of six lectures delivered at Oxford, will have been read with intense interest by all those who appreciate the importance of the science of man. The origin of property and the tenure of land seem at first sight so simple, that those who have not studied the question have probably never realised to themselves that there was any question to study. The curious organisation of the Russian "Mirs," the Slavonic land customs, the Indian Village Communities, seem at first sight something utterly strange and foreign to our ideas. Yet we have amongst ourselves a curious variety of tenures,—Gavelkind; Borough English; true Common land, which belongs to a community; Lammas land, which is private property for one part of the year and common land at another; and recent German writers, particularly V. Maurer and Nasse, have called special attention to this interesting subject. Indeed, the old Teutonic village seems, as a general rule, to have possessed a certain quantity of common land, divided almost invariably into three great fields; one of which was almost always in fallow. The arable land was divided into equal portions, one for each family, and the mode of cultivation was regulated by minute rules. The three fields were separated by grassy banks; and, though these have in most instances long disappeared, some still remain; for instance, at Oxford, where there was a very large commonable field, the three banks may still be seen near the branch of the North Western Railway leading to Cambridge. We have long been familiar with the linguistic affinity between India and Europe; our attention has been more recently called to the similarity existing between the megalithic monuments of the two countries; and it is, therefore, the less surprising, though not less interesting, to find in these village communities such remarkable analogies between the East and West.

In many respects, however, they are not only unlike but even opposite. The Teutonic mind has arrived at considering contract

as the basis of law; in Hindostan, on the contrary, as in Primitive Communities generally, authority or custom are the great sources of law; and Sir H. Maine assures us that under the new irrigation system, the distribution of water is arranged under a sort of fiction that the system has existed from all antiquity, although in fact, until the last few years, no artificial water supply has been thought of. The study of these ancient customs is by no means a matter of purely philosophical interest or of abstract science. "To those, indeed," says Sir H. Maine,* "who knew how strong a presumption already existed that individual property came into existence after a slow process of change, by which it disengaged itself from collective holdings by families or large assemblages, the evidence of a primitive village system in the Teutonic and Scandinavian countries had very great interest; this interest largely increased when England, long supposed to have had since the Roman conquest an exceptional system of property in land, was shown to exhibit almost as many traces of joint-ownership and common cultivation as the countries of the north of the Continent: but our interest culminates, I think, when we find that these primitive European tenures and this primitive European tillage constitute the actual working system of the Indian village communities, and that they determine the whole course of Anglo-Indian administration."

To Mr. Lewis H. Morgan and the Smithsonian Institute, we are indebted for a most important work on systems of consanguinity and affinity of the Human Family. Whether Mr. Morgan's conclusions are eventually adopted or not, this work will not the less be a most valuable contribution to our science, giving us as it does, in addition to a great number of incidental facts, the systems of relationships of no less than one hundred and thirty-nine races and tribes. Mr. Morgan considers that there are two radically distinct forms of consanguinity indicated by his tables. "One of these (he says)† is descriptive and the other classificatory. The first, which is that of the Aryan, Semitic, and Uralian families, rejecting the classification of kindred, except so far as it is in accordance with the numerical system, describes collateral *consanguinitii*, for the most part, by an augmentation or combination

* *Loc. cit.*, p. 61.

† *Loc. cit.*, p. 10.

of the primary terms of relationship. These terms, which are those for husband and wife, father and mother, brother and sister, and son and daughter, to which must be added, in such languages as possess them, grandfather and grandmother, and grandson and granddaughter, are thus restricted to the primary sense in which they are here employed. All other terms are secondary. Each relationship is thus made independent and distinct from every other. But the second, which is that of the Turanian, American Indian, and Malayan families, rejecting descriptive phrases in every instance, and reducing *consanguinity* to great classes by a series of apparently arbitrary generalisations, applies the same terms to all members of the same class. It thus confounds relationships which under the descriptive system are distinct, and enlarges the signification both of primary and secondary terms beyond their seemingly appropriate sense."

While, however, I fully admit the very important differences between the Hawaiian system and our own, they appear to me to be the extremes of a series; and even the most correct and advanced systems contain, I think, still within them traces of their lowly origin. Unable, then, to agree with him on so fundamental a question, I naturally differ on many minor points. He considers for instance that exogamy (to use the very convenient term suggested by Mr. McLennan), "is explainable, and only explainable, in its origin, as a reformatory movement to break up the intermarriage of blood relatives, and particularly of brothers and sisters, by compelling them to marry out of the tribe." This seems to me very improbable; customs originate much more often, I believe, in experience of practical convenience, than in theoretical considerations.

I will not, however, on the present occasion, enlarge on Mr. Morgan's work, because I have already had the honour of laying my views on the development of relationships before the Institute in a paper read at our first meeting; yet, while differing from Mr. Morgan on some important questions, I have great pleasure in expressing my appreciation of the great value and interest of his researches.

We owe to Mr. E. B. Tylor an important and elaborate work, entitled "Primitive Culture: Researches into the Develop-

ment of Mythology, Philosophy, Religion, Art, and Custom." He commences with an introductory chapter on the Science of Culture; then follow one on the Development of, and two on Survival in, Culture; two chapters on Emotional and Imitative Language, and one on the Art of Counting; the rest of the book is devoted to Primitive Religion, under the heads of Mythology and Animism. In common, I believe, with all those who have devoted special attention to the science of man, Mr. Tylor is a firm believer in the general progress of the human race. The idea, he says, "of the original condition of man being one of more or less high culture, must have a certain prominence given to it on account of its considerable hold on public opinion. As to definite evidence, however, it does not seem to have any ethnological basis whatever." Of course, neither Mr. Tylor nor any of those who hold the doctrine of evolution in civilisation mean to deny that there are cases of degradation. Nations, like individuals, are always in danger of falling back; but in the struggle for existence to sink is to perish. Retrograding races diminish in numbers; improving races increase: and the consequence is that, as a whole, the human race advances. Mr. Tylor calls particular attention to certain cases of degradation. There are tribes, he says, "who are the very outcasts of savage life. There is reason to look upon the miserable Digger Indians of North America and the Bushmen of South Africa as the persecuted remnants of tribes who have seen happier days." Arrest and decline in civilisation, he says in another passage, "are frequent and powerful operations of national life." But he denies that the "dangerous classes" of our great cities can be fairly compared with savages. Their condition he considers to be worse than savagery; it is broken-down civilisation. "The savage life is essentially devoted to gaining subsistence from Nature, which is just what the proletarian life is not. Their relations to civilised life—the one of independence, the other of dependence—are absolutely opposite. To my mind, the popular phrases about 'city savages' and 'street Arabs' seem like comparing a ruined house to a builder's yard." Mr. Tylor lays great and just stress on cases of survival, as evidence of the general law of progress. Indeed we find, even among the most

civilised races, lingering ideas which are out of harmony with the rest, and characteristic of lower culture—cases, in fact, of survival or superstition. Thus, uncivilised man thinks that the will of the Deity can be ascertained by means of lots or dice; and, although such an idea seems to us utterly erroneous, yet we find even so great a man as Jeremy Taylor maintaining “that it is not improbable that God hath permitted the conduct of such games of chance to the devil, who will order them so where he can do most mischief.”

If I correctly understand Mr. Tylor's views on morals among savages, I do not agree with him; or, at least, I should not apply the terms he uses in the same sense. “The good are good warriors and hunters,” said a prairie chief; meaning, I presume, by a “good”, a successful and skilful warrior. If, then, Mr. Tylor observes, experience has led societies of savages to fix on certain qualities, such as courage and skill, as being virtues, and further to conclude that such virtues obtain their reward in another world, then their theories of future happiness and misery may be fairly looked on as belonging to morality, though at no high stage of development. But surely morality does not depend on admiration. No doubt, even among the lowest savages, some things are admired and some things are despised, and this may be the protoplasm which lies at the basis of the life of morality; but the whole question seems to be, whether savages are, in their lowest state, affected by moral considerations; and to define as “moral” any feelings by which they are influenced is surely no solution of the question.

Mr. Wallace, we know, has expressed a very different opinion. “Among people in a very low stage of civilisation,” he says, “we find some approach to a perfect social state.....Each man scrupulously respects the rights of his fellow, and any infraction of those rights rarely or never takes place.” It is with great diffidence that, on such a subject, I should express any opinion at variance with that of Mr. Wallace, but it certainly appears to me that this statement is inconsistent with the general testimony of travellers; though, no doubt, in cases where the communities are scattered and very small, so that all the individuals

* *Loc. cit.*, vol. ii, p. 81.

are more or less related to one another, there is little inducement to crime. One instance of honesty mentioned by Mr. Wallace certainly seems, at first sight, to bear out his high estimate of savage morals, and has, indeed, been quoted as doing so. At Waigiou he had paid several natives in advance for birds of paradise. One of these natives had been unable to obtain the number of birds agreed on: when the time came for Mr. Wallace's departure, this man was absent. Just, however, as Mr. Wallace was on the point of starting, he* "came running down after us, holding up a bird, which he handed to me, saying, with great satisfaction 'Now I owe you nothing.' These were remarkable and quite unexpected instances of honesty among savages, where it would have been very easy for them to have been dishonest without fear of detection or punishment."

At first sight, this no doubt seems a strong case. But is Mr. Wallace correct in supposing that this man might have been dishonest without fear of punishment? I think not. In another passage he tells us† that "the natives believe that all the animals I preserve will come to life again." "I have no doubt that to the next generation, or even before, I myself shall be transformed into a magician or a demigod, a worker of miracles, and a being of supernatural knowledge." To cheat such a being would surely be very dangerous; and, ungracious as it may seem, I think, therefore, that the above-mentioned act of honesty is hardly so striking as it appeared to Mr. Wallace.

I must not omit to mention an article by Mr. Bagehot, which appeared in the *Fortnightly Review* for last December. In it he gives a clear and admirable explanation of the manner in which the study of modern savages enables us to infer the moral and intellectual condition of our ancestors in prehistoric times. Without committing himself to all our conclusions, he expresses his entire concurrence with the method by which we are endeavouring, through the study of the present, to reconstruct the past; and such approval, coming from so calm and judicial a philosopher, seems to me most satisfactory. For my own part, I care comparatively little to establish my own views, if only we have a road open before us which will eventually lead to the truth. The

* "Malay Archipelago," vol. ii, p. 365.

† *Loc. cit.*, p. 263.

result of recent researches, says Mr. Bagehot, "seems to me to be, if I may sum it up in my own words, that the modern pre-historic men, those of whom we have collected so many remains, and to whom are due the ancient, strange customs of historical nations (the fossil customs we might call them, for very often they are stuck by themselves in real civilisation, and have no more part in it than the fossils in the surrounding strata)—prehistoric men in this sense were 'savages without the fixed habits of savages'; that is, that, like savages, they had strong passions and weak reason: that, like savages, they preferred short spasms of greedy pleasure to mild and equable enjoyment; that, like savages, they could not postpone the present to the future; that, like savages, their ingrained sense of morality was, to say the best of it, rudimentary and defective. But that, unlike present savages, they had not complex customs and singular customs, odd and seemingly inexplicable rules guiding all human life."

In this I entirely concur. To use Mr. Bagehot's striking expression, the mind of the modern savage is "tattooed" over with images, which had no place in the ideas of the original men. It is often said that certain customs and beliefs which are clearly pernicious, could never have been acquired, because any race with a tendency to them would be crushed out in the struggle for existence. The answer is, as Mr. Bagehot truly observes, that they "can only ruin a race contending with another race otherwise equal." Thus, if we consider the importance to man of the marriage tie, the family system, and strict morality, it is obvious that, if these advantages were ever general, the loss of them would tend to annihilation. A race could hardly lose them and live among others by whom they were retained. Hence their absence, or, at any rate, their feeble development, among races of existing savages, sufficiently indicates that they were not aboriginal. Again, it is easy to understand how a low form of religion, say fetichism, might be developed, if it was an improvement on what went before; but we may be sure that a fetichist people could never hold their own on equal terms against a race in possession of a higher and more noble faith.

During the last few days, Mr. Fergusson has published an elaborate work on "Rude Stone Monuments", which will prove

very useful on account of the number of illustrations, as well as the careful descriptions of megalithic monuments. The contemptuous manner in which Mr. Fergusson allows himself to speak of other scientific men, is, I think, to be regretted. The Danes, for instance, have done good service to archæology; and the statement, that "in Denmark anything that cannot be put into a glass case in a museum is so completely rejected as valueless that no one cares to record it," seems to me singularly unjust, since my impression is that the Danish Government have done more for the preservation of their national monuments than has been the case in any other country.

Speaking of the Germans, he says* that "they have not yet turned their attention to this class of their antiquities. They have hitherto been too busy sublimating their national heroes into gods to think of stones that tell no tales." And "as the investigation will probably have to pass through the solar myth stage of philosophy, it may yet be a long time before their history reaches the regions of practical common sense."

Not confining his attack to archæologists, he goes out of his way to assault the biologists also. The habit of burying the dead is, he says, "one of those peculiarities which, like speech, distinguish mankind from the lower animals, and which are so strangely overlooked by the advocates of the fashionable theory of our ape descent." I do not know on what evidence this statement is made; Mr. Tylor and Sir C. Lyell have both devoted most interesting chapters to the subject of language. Nor do I understand in what sense Mr. Fergusson uses the word "fashionable"; if he means popular, I can only say that my experience has led me to the opposite conclusion. If he means that the theory of evolution, in some form or other, is adopted by most eminent naturalists both in England and on the continent, I should have thought the fact might have induced some caution of expression on the part of one who, so far as can be judged from his writings, has never made any special study of biology. But, in fact, nothing has surprised me more in this work of Mr. Fergusson's, than the complete confidence and conviction which he feels in his own conclusions, even when they are opposed, as he

* *Loc. cit.*, p. 300.

himself admits, to the unanimous opinion of other archæologists. I must, however, be permitted to say that the views of archæologists are, I am sure unintentionally, very much misrepresented by Mr. Fergusson. He is, for instance, severe on the Danish system of classification; "little reliance," he maintains, "can be placed on the hard and fast distinction between the flint, bronze, and iron ages, which have hitherto been supposed to govern every determination of age in this science."* That this is a fair statement of the theory, I cannot admit. As far as I am myself concerned, I have over and over again called attention to the contemporaneous use of stone and metal, and pointed out the consequent necessity of caution in determining the age of any particular find. I do not believe that a single archæologist in this country holds the theory which Mr. Fergusson attributes to us all indiscriminately. In fact, Mr. Fergusson does not differ from other archæologists as regards the three ages. There need, he says,† "be no difficulty in granting that men used stone and bone for implements, before they were acquainted with the use of the metals. It may also be admitted that they used bronze before they learned the art of extracting iron from its ores." He thus admits the truth of the Danish theory; the divergence between his views and those of ordinary archæologists does not arise from a difference in theory, but from a different estimate of evidence.

Mr. Fergusson, as is well known, refers Stonehenge‡ and Abury (p. 89) to the time of King Arthur, and he has now convinced himself that all other English stone circles belong to the same period. Stennis and the other principal Orkney antiquities he refers to the time when the Vikings first established themselves in the islands, and before their conversion to Christianity. The monument of Carnac commemorates a battle "fought between the years A.D. 380 and A.D. 550—in fact, in the Arthurian age, to which we have ascribed most of those in this country."

* *Loc. cit.*, p. 14.

† *Loc. cit.*, p. 28.

‡ He alludes to the fact that Sir R. C. Hoare found several fragments of Roman pottery scattered about in the area of Stonehenge; but this is surely an argument for referring it to Roman times! If it was not constructed till the time of Arthur, how did the Roman pottery get there?

Some of the dolmens in Southern France, in his opinion, were constructed as late as the twelfth century.

The faith which Mr. Fergusson places in the accounts we possess of Arthur's history and battles seems to me the more surprising, since, as he himself tells us,* "Arthur had no contemporary history, and, instead of living in a highly civilised state that continued for ages after him, he was the last brilliant light of his age and race, and after him all was gloom for centuries. It was not till after a long eclipse that his name was seized upon in a poetical and an uncritical age as a peg for bards whereupon to hang their wild imaginings." Yet these "wild imaginings" form the basis of Mr. Fergusson's whole theory.

It is surely extremely improbable that all the principal megalithic monuments of England should belong to one half century, and commemorate the victories of one chief. Moreover, the contents of the Brittany tumuli, and of those surrounding Stonehenge and Abury, seem to me fatal to Mr. Fergusson's theory. The celebrated stone at Aberlemmo, of which Mr. Fergusson gives figures,† is referred to the tenth century; correctly, as he himself admits. It bears a battle scene on one side, a large cross and elaborate scroll work on the other. Surely such a stone as this can hardly belong to the same period as a monument like Stennis or the Ring of Brogar. In Spain, again, there is at least one church as early as the tenth or eleventh century actually built over a dolmen. Yet Mr. Fergusson considers that no megalithic monument "has yet made out its claim to an antiquity of more than two centuries, if so much, before the Christian era."‡ Stonehenge, Abury, and all similar monuments, are of one style and one period. "Either Stonehenge and Abury, and all such, are temples of a race so ancient as to be beyond the ken of mortal man, or they are the sepulchral monuments of a people who lived so nearly within the limits of the true historic times that their story can easily be recovered."§ We have already seen that he refers them to the period following the downfall of the Roman power.

It is, therefore, rather surprising to find that Mr. Fergusson

* *Loc. cit.*, p. 133.

† *Loc. cit.*, p. 508.

‡ *Loc. cit.*, figs. 94, 95, pp. 268, 269.

§ *Loc. cit.*, p. x.

does not consider either the Teutons or the Celts to have been a dolmen-building race; that, on the contrary, in his opinion, "the rude-stone style of art seems to have been invented by some pre-Celtic people, but to have been adopted by Celts, by Scandinavian, by British, and Iberian races—perhaps not always pure in their own countries, but always with considerable differences, which, when perceived and classified, will enable us to distinguish between the works of the several races as clearly as we can between the mediæval styles that superseded them."*

Elsewhere he tells us that this pre-Celtic dolmen-building people were a Turanian race. But as our megalithic monuments were all constructed by Celts and Teutons in post-Roman times, it is rather startling to be told that these races were not dolmen-building peoples, but that they borrowed this style of art from a prehistoric Turanian race, by whom none of our megalithic monuments were erected, and who have not left behind them a single illustration of their powers.

Nor can I reconcile this view with the theory which he supports in his chapter on Algeria (p. 408); namely, that these megalithic monuments are "merely the result of a fashion which sprung up at a particular period, and was adopted by all those people who, like the Nasamones, revered their dead and practised ancestral worship rather than that of an external divinity."

Again, Mr. Fergusson lays just stress on the similarity between the European and the Indian dolmens. He does not consider that the Western races borrowed the simpler forms of dolmen from India, but he adds "what they do seem to have borrowed is the use or abuse of holed stones, and the arrangement of external dolmens on the summit of tumuli combined with two or three circles of rude stone."† How the rude tribes of Western Europe, in the centuries darkened by the disintegration of the Roman Empire could have borrowed such ideas from still ruder tribes in India, I am at a loss to conceive. To me, on the contrary, it seems that such a construction is the natural development of the simpler dolmen, and the idea of leaving a hole for the passage of the soul is found also among other races; for instance, the Iroquois and Malagasy.

* *Loc. cit.*, p. 306.

† *Loc. cit.*, p. 507.

Although I do not attach so much importance as Mr. Fergusson to the distribution of megalithic remains in single countries, as, for instance, in France; considering that it is regulated rather by the distribution of suitable materials, and by the accidents of preservation; still, the presence of megalithic monuments in distant countries, such as Algeria and India, seems to me fatal to a theory which refers all our European examples to post-Roman times.

As regards India, it seems clear that there is a direct connection between the dolmen and the dagoba, but while most archaeologists would consider that the former had developed into the latter, Mr. Fergusson on the contrary considers that the dolmen is merely a degraded dagoba. Even as applied to India, this theory seems to me, I confess, surrounded with difficulties; but as regards Europe it is surely quite untenable, if we remember that our dolmens are, as Mr. Fergusson admits, identical with those of India, and that we have on this continent no dagobas from which they can have degenerated.

On the whole then I must confess myself altogether unable to concur in Mr. Fergusson's views. No doubt the custom of burying in tumuli, and even perhaps of constructing dolmens, continued until long after Roman times; but it commenced at a much earlier period, and I have elsewhere given reasons which still seem to me unshaken, for referring some of our principal monuments to pre-Roman times; while, as regards many others, it seems to me that we can at present only confess our entire ignorance.

Dr. Dupont has published a report of his researches in the Belgian caves, undertaken on behalf of the Government, on the instance of Prof. Van Beneden and the Royal Academy. Here, as elsewhere, human remains, in other than a fragmentary condition, are unfortunately very rare. Two skulls have however been obtained from one of the caves near Furfooz, one of which is nearly perfect. It has been already described, and according to M. Pruner Bey is neither decidedly dolichocephalic nor brachycephalic, but intermediate as regards length, and belonging to the Mongoloid type. Dr. Dupont refers this skull to the Reindeer period. Of all the Belgian caves, the Trou du Cha-

leux appears to be the richest in flint implements. Dr. Dupont has obtained from it more than thirty thousand specimens, not one of which shows any trace of polish. Dr. Dupont terminates his report by a reference to the researches of M. l'Abbé Bourgeois, and appears satisfied that we have sufficient evidence as to the existence of man in Miocene times.

The continued destruction of Prehistoric monuments is a fact which, I am sure, we all deeply regret, and which reflects little credit on us as a nation. This year a portion of Abury, the grandest monument of its kind in this country, perhaps in the world, was actually sold for building purposes in cottage allotments. Fortunately the Rev. B. King, the Rector of Abury, knowing the interest I felt in that great national monument, wrote to me on the subject, and mentioned a sum for which it might be rebought and thus preserved. I at once authorised him to offer the amount in my name, and I am happy to say that it has been accepted; those who had taken the allotments having agreed to exchange them for other bits of land. This danger is therefore, I hope, averted, but it seems to me that as a nation we ought to take these monuments under our protection, and that it is really disgraceful to allow them to be broken up, as is too often the case, for the mere value of the stones of which they consist, or the land on which they stand. It is my intention next session to ask for leave to bring in a bill which our excellent Treasurer, Mr. Flower, has very carefully prepared, and which I hope will have the effect of checking the destruction of these interesting remains. I am happy to say that I have already promises of very valuable support.

But, Gentlemen, I must conclude. There are many other works and memoirs to which, if time permitted, I should have been glad to refer. Bastian's Supplement to the "*Zeitschrift für Ethnologie*," and "*Ethnologische Forschungen*", for instance, contain a mass of valuable information, less useful however than could be wished on account of the incompleteness of the references. The "*Zeitschrift für Ethnologie*" itself, the "*Arch. für Anthropologie*," the "*Matériaux pour servir*," and many other scientific periodicals; last, not least, our own Journal, contain a number of valuable and interesting memoirs.

Some very interesting travels have also appeared during the past year; as, for instance, Mr. Musters' "Life among the Patagonians", Shaw's "Visits to High Tartary", Forsyth's "Highlands of Central India", Captain Burton's "Zanzibar", &c.

During the same period we have had the misfortune to lose by death some very valuable members of our Society. Sir Roderick Murchison, Lord Dunraven, Mr. Dendy, and Dr. Seemann, will be specially missed.

In conclusion, Gentlemen, I will only thank you for the support you have given me as your President during the past year, and assure you that if it be your wish that I should retain my office for a second season, it will be my earnest desire, in conjunction with the Council, to promote as far as possible the prosperity of our Society and the progress of our Science.

Mr. A. W. FRANKS moved, and Mr. BRABROOK seconded, a vote of thanks to the President, which was carried by acclamation.—The PRESIDENT returned thanks.

The following Obituary Notices were read :

OBITUARY NOTICES.

Dr. Seemann.—Dr. Berthold Seemann, the celebrated traveller and botanist, to quote from the *Times*, died at the Jávali Mine, in Nicaragua, on the 10th of October last. He was the son of William G. Seemann, and was born at Hanover, in the year 1825. After receiving an excellent education in the Lyceum of his native city, he obtained the decree of Doctor of Philosophy at the University of Göttingen, and was appointed, in 1846, naturalist on board Her Majesty's ship *Herald*, in which capacity he made a voyage round the world and three cruises to the Arctic regions in search of Sir John Franklin. In 1860 he was appointed by the Colonial Office one of the Royal Commissioners to the Viti, or Fiji Islands, for the purpose of ascertaining their fitness for a British colony, and he likewise explored, in a private capacity, many parts of North and South America. As a scientific writer Dr. Seemann was widely known by his "Narrative of the Voyage of H.M.S. *Herald*," published in 1853; a "Popular History of Palms," in 1855; the "Botany of the Voyage of H.M.S. *Herald*," in 1857; "Viti: an Account of a Government Mission to the Viti, or Fiji Islands," in 1862; "Popular Nomenclature of the American Flora;" "Paradisus Vindobonensis;" "Twenty-four Views of the Coast and Islands of the Pacific;" and "Dottings on the Roadside in Panama,

Nicaragua, and Mosquito," written in collaboration with Captain Bedford Pim, and published in 1869. He was also a frequent contributor to the leading scientific journals of London, and editor of the "Bonplandia", the "Journal of Botany, British and Foreign", and "The Flora of Esquimaux Land". He was a Fellow of the Linnæan Society of London, and Vice-President of the Imperial German Academy *Naturæ Curiosorum*.

"On Dr. Seemann's remarkable attainments as a man of science," writes a literary friend of his, "it would be superfluous to dwell before the audience collected in this place, to the concerns and interests of which he devoted so much time, knowledge, and energy. As little is it needful to recal his distinction among those who have travelled far and wide, and brought home rich and rare fruits. But surely few have been more happy in presenting the record of their experiences than he was—few have represented what they have noted and discovered with so light a hand and so clear a touch. There was singularly little foreign tincture in his English, no prosiness, no pomposity, but delicacy of expression and justice of taste; and, above all, an absence of egotism and self-presentment which is rare among travellers who have passed along tracks so little beaten. He had graceful talents as a dramatist, of which some of his scientific brethren may not have been aware. He had written more than one delicate comedy for the Thalia Amateur Association at Hanover, with a pretty theatre of its own, modelled, perhaps, on the Palladian Theatre at Vicenza. One of these, "Wild Roses," is published—a graceful and fresh work, which contains a rarity in drama—a new idea." H. F. C.*

Mr. Dendy.—Mr. Walter Cooper Dendy was born in the year 1794, educated at St. Thomas's Hospital, and, after a short and brilliant medical career, rapidly became President of the Medical Society of London. On the 2nd April, 1867, he became a Fellow of the Anthropological Society of London. Three months afterwards, on June 18th, in the discussion on Dr. Hunt's paper on "Physio-Anthropology", he delivered a speech which attracted great attention. A paper was read by him on "The Anatomy of Intellect" on Dec. 3rd, 1867, which well main-

* It will be of painful interest to the readers of the Journal to be informed that Mr. Henry F. Chorley, by whom the foregoing brief but genial and characteristic memoir of his friend Dr. Seemann was written, himself died on February 16th, 1872. Mr. Chorley was extensively known in the literary world as having been for thirty-five years the musical critic of the *Athenæum* newspaper. He was born on December 15th, 1808, at Ashton-in-Mackerfield, Lancashire. He was the author of numerous works on his special subject, and of several works of fiction. His elaborate and valuable paper on "Race in Music," read before the Anthropological Society, appeared in the *Journal of Anthropology*, October 1870, p. clv.

tained his reputation for scholarship. He was selected by the Council to read the first scientific paper in the session 1868, and on November 3rd read a paper which he had previously laid before the British Association at Norwich. This paper on Anthropogenesis (which only exists in abstract in the Journal of the Anthropological Society) contained a trenchant attack on the Darwinian doctrines, and produced an animated and elaborate discussion. At the 1870 meeting of the British Association at Liverpool he read a paper on the "Shadows of Genius," which is published at length in the "Journal of Anthropology." The 19th of June last was the last time Mr. Dendy spoke before the institute, on Mr. Westropp's paper "On the Analogies and Coincidences among unconnected Nations." During the last six months of his life acute disease of the heart confined him frequently to the house; yet the rooms of the Anthropological Institute and the reading-room of the British Museum were frequently visited by him. The attack which finally caused his decease was not heralded by many premonitory symptoms. It is believed that one of the last acts in life which he performed was to write a letter to Mr. J. Fred. Collingwood, on business of the Institute. Small in *physique*, especially suave and amiable in conversation or in debate, his familiar countenance will long be missed at our meetings; and his reputation will be maintained as a fervent student of the older schools of anatomy.

The following list comprises nearly all Mr. Dendy's printed works:—

"On the Cutaneous Diseases incidental to Childhood." London, 1827-8. 8vo. "A Discourse on the Birth and Pilgrimage of Thought." London, 1853. 8vo. "The Wild Hebrides." London, 1859. 8vo. "Portraits of Diseases of the Scalp." London, 1849. 4to. "Practical Remarks on Diseases of the Skin." London, 1837. 8vo. 2nd edition. London, 1854. "Legends of the Lintel and the Ley." London, 1863. 8vo. "On the Cerebral Diseases of Children." London, 1868. 8vo. "Phenomena of Dreams, and other Transient Illusions." London, 1832. 12mo. "Philosophy of Mystery." London, 1841. 8vo. "Book of the Nursery." London, 1833. 12mo. "Gleam of the Spirit Mystery." London, 1861. 8vo. "Hints on the Health and Diseases of the Skin." London, 1843. 12mo. 2nd edition. 1846. 12mo. "Beautiful Islets of Bretagne." London, 1857. 8vo. 2nd edition. 1860. 8vo. "Wonders of the Human Body. By Delta." Privately printed. *S. a. et l.*

C. C. B.

Sir Roderick Impey Murchison, Bart., K.C.B., D.C.L., F.R.S., etc.
—The great eminence of the late Sir Roderick Murchison, and

his intimate connection with the leading scientific bodies of Europe, will ensure such exhaustive notices of his labours in science that it is unnecessary here to do more than record the fact of his services to the late Ethnological Society. It was by his permission that that Society (of which he had been a member for ten years) held the series of brilliant and successful meetings, under the presidency of Professor Huxley, at the Museum of the School of Mines in Jermyn Street, which did so much to popularise the science, and to call out some of the latent energy and spirit of enterprise that undoubtedly exist in abundance among our members.

Sir DUNCAN GIBB, Bart., moved, and Dr. CARTER BLAKE seconded, "That the best thanks of the members be offered to Mr. C. Staniland Wake for his services as Director of the Institute."—Carried unanimously.

Mr. EDWARD CHARLESWORTH moved, and Mr. KAINES seconded, a vote of thanks to the retiring Members of Council, viz., Dr. John Beddoe, Mr. W. Boyd Dawkins, Dr. George Harcourt, Rev. Dunbar I. Heath, and Mr. S. E. Bouverie-Pusey.—Carried unanimously.

The report of the scrutineers was then brought up and read as follows:—

"We find that the officers and Council to serve for 1872 have been duly elected, viz:

"*President*.—Sir John Lubbock, Bart., M.P., F.R.S.

"*Vice-Presidents*.—W. Blackmore, Esq., Prof. Busk, F.R.S., Dr. Charnock, F.S.A., John Evans, Esq., F.R.S., George Harris, Esq., F.S.A., Prof. Huxley, F.R.S.

"*Director*.—E. W. Brabrook, Esq., F.S.A.

"*Treasurer*.—J. W. Flower, Esq., F.G.S.

"*Council*.—H. G. Bohn, Esq., Capt. R. F. Burton, James Butler, Esq., A. Campbell, Esq., M.D., Hyde Clarke, Esq., J. Barnard Davis, Esq., M.D., F.R.S., Robert Dunn, Esq., David Forbes, Esq., F.R.S., Col. A. Lane Fox, V.P.S.A., A. W. Franks, Esq., M.A., Sir Duncan Gibb, Bart., M.D., Joseph Kaines, Esq., Richard King, Esq., M.D., A. L. Lewis, Esq., Clements R. Markham, Esq., C.B., Capt. Bedford Pim, R.N., F. G. H. Price, Esq., C. Robert des Ruffières, Esq., F.G.S., W. Spottiswoode, Esq., V.P.R.S., C. Staniland Wake, Esq."

A vote of thanks to the scrutineers terminated the proceedings.

ANTHROPOLOGICAL MISCELLANEA.

THE KALMUCKS.*

Name and Origin.—The etymology of the name Kalmuck is interpreted in different ways. Some derive it from the Tartar *Khalimak*, which is as much as to say *He who remains behind*; others deduce it from two Mongol words, *Ghol* (fire) and *aïmak* (tribe); from whence *Ghol-aïmak*, *Khalmak*, and lastly *Kalmuck*, i.e., *Ardent People*. The Kalmucks primitively inhabited the countries north-east of the Chinese empire; viz., Dzungarie: and participated in all the conquests of Djenghis Khan and of Batou in the east. At the commencement of the seventeenth century, they arrived on the shores of the Caspian Sea; and they have camped there to the present day in the immense steppes which extend on the right of the embouchures of the Volga.

Physical Characters.—The first glance of a Kalmuck suffices to recognise in him the model representative of the true Mongol type. They are of middle stature, robust and broad in the shoulders. Their skin is swarthy, face flat, fissure of the eyelids narrow and oblique, nose depressed, nostrils wide, lips thick, teeth white and regular, ears long and prominent, hair black, and beard thin.

Psychical Characters.—The principal trait in the character of the Kalmucks, after their simplicity, want of cleanliness, and laziness, is that, after the manner of all nomade people, they are extremely superstitious. The Kalmuck never undertakes any serious matter without having previously consulted a sorcerer. He never dares to kill a fly for fear of assailing the soul of one of his ancestors, which may perhaps animate this insect. When, on a journey, a Kalmuck perceives a certain bird which he esteems to be a good augury, he rejoices in this conjuncture, does not fail to manifest his satisfaction, and bows himself three times. As soon as he perceives a hare, on the contrary, he utters a cry, pursues it, and strikes a blow in the

* This notice of the Kalmucks of the Volga is translated from the Russian work entitled "Russia in Europe, under its Physical and Ethnographical Relations." By B. Liadov. St. Petersburg, 1861. It is considered to have been derived from another Russian author, Nebalsine. Nebalsine resided for a long time at Astrakhan, at the mouth of the Volga, on the Caspian Sea, and was employed at the "Court of Domains", which governs the Kalmucks. At this place he had occasion to study this people carefully and intimately; consequently, he is regarded as a great authority upon the Kalmucks. His account of them was published probably twenty years ago. The article now printed is vastly more complete than that upon the Kalmucks in the great work of De Pauly, "Les Peuples de la Russie."

air with his stick, in order to exorcise the misfortune which might happen. For the world he would not pick up a steel for striking a light found upon the way. To seat himself upon the threshold of the door, or warm his feet before the fire, he holds for a great impiety; and if it happens to any one to light his pipe with paper, it is certain that he will soon die.

Notwithstanding these superstitions of the Kalmucks, they are said to possess a good deal of intelligence. Their imagination especially is much developed, and they are sufficiently ingenious, which is proved by their tales and proverbs. Some of their tales are so long that they require many evenings to be recited to the end. They are, moreover, distinguished by their peculiar form, and they are not related in ordinary manner, but the Kalmucks recite them in a singing tone.

As to the proverbs of the Kalmucks, it is impossible not to recognise in them the sound judgment of this people, and their acuteness.

"To get a sheep, ask for a camel."

"It is better for a cypress to be broken than to be bent; and for an honest man it is much better to die than for him to degrade himself."

"Ill-got food sticks between the teeth."

"In the desert, of a beetle is made a sheep."

Mode of Life.—Being exclusively occupied in raising cattle, the life of the Kalmuck is nomade. A "*khoton*", which is a commune, more or less numerous, composed of many families united by bonds of relationship, never remains more than two or three weeks in the same place. Transmigration from one place to another is a real feast to the Kalmucks. All their goods, including their tent, *kibitka*, are loaded upon the back of a camel, and covered over with a piece of drapery if the family is in easy circumstances. The women and girls, in holiday dress, as well as the young boys, drive the flocks. The little infants are placed in panniers, which are attached to the sides of the loaded camels, and the mother who is suckling is mounted on the top with her infant. The men on horseback take the lead, and conduct the caravan. The march, which sometimes lasts many days, does not tire the Kalmucks; and they often divert themselves with songs and stories.

Behold them at last arrived at a spot which affords more abundant pasturage. They make a halt, unload the camels, and set to work to erect the tents, which does not require much time. At the end of half an hour, the framework of the *kibitka* is put up. It has the form of a truncated tunnel reversed, resting by its base upon a cylindrical support, which has the same circumference. The *kibitka* is covered outside by a felt cloth, and inside with reed mats. At one side there is an opening, into which is fitted a wooden frame for the door. This door, being open all day, allows the air and light to enter into the interior of the tent, which also receives a little light from above by an opening in the centre of the roof. The floor of the *kibitka* is covered with a carpet and felts in summer, and with the skins of different animals in winter. The arrangement of the inte-

rior of a kibitka does not require much pains or time. Opposite the door they put up against the side of the tent a low couch. On the left of this is raised the grand "baran", the most sacred place in the habitation of a Kalmuck. It is upon this that the objects of his religious adoration are deposited, as well as all the treasures of his family. Upon the spot in which this great baran is to be raised, they first spread the coverings and caparisons of the horse equipage and saddles; upon these are placed coffers with clothes: all these being covered over with a drapery, they deposit last of all the trunks in which are kept the *bourkhans*, the Kalmuck's idols. These being withdrawn from the trunks and placed upon the draperies, a sort of altar is raised before the *bourkhans*. It is a little wooden table, upon which they arrange many little dishes of silver and copper, intended to receive offerings, cheese, gruel, and different kinds of incense. Lastly, before this little table they plant in the soil a piece of wood surmounted with a small silver cup. It is in this that the head of the family deposits the first morsel of every dish that is eaten during the common repast.

On the right of the door, opposite to the preceding, the *little baran* is raised. Here they place the largest coffer, upon which are placed the provisions, wine, and the best household utensils. Around this coffer they place the kettles and other cooking vessels.

The entire arrangement of the kibitka, both outside and inside, is the affair of the woman. The husband only charges himself with the construction of the framework, and with some definite corrections which may be necessary. He passes his time in the chase, in pasturing his flocks, or simply doing nothing. All the charge and cares of the household belong to the woman.

Manners and Customs of the Family.—In the family life of the Kalmucks, the marriage of a son or daughter is a principal occasion of rejoicing and of feasts. The choice among the Kalmucks belongs entirely to the parents. Still, there is no constraint upon this point, and, if the son declares that the selection of his parents displeases him, there is no further question about the matter. In considering marriage as the most serious and grave act of life, the Kalmucks never undertake it without the benediction of their "ghélung", priest. As soon as he, after having consulted the constellations under which the affianced were born, declares that there are no obstacles to their marriage, one of the elder relatives, on the part of the boy, repairs to the parents of the girl, and, after having regaled them with *eau-de-vie*, announces the object of his visit. It is rare that a refusal takes place in these cases. The parents having given their consent, may expect the formal demand in marriage. Some days afterwards, the father of the affianced youth, having taken with him a provision of wine, a sheep, a block of tea in the form of a brick, and a roll of paper containing a strap and a piece of fish-glue, accompanied with many friends, who ought to be absolutely married, repairs to the khoton of the betrothed girl. Having arrived in the kibitka, he begins by serving out the wine to all present; then he brings up the sheep, which his friends

kill, and immediately put it into the cauldron to be boiled. The little packet, containing the tea, the strap, and the glue, is presented to the father of the affianced girl. The tea is consumed at once, and the two other objects, which represent the jewels of betrothal, are deposited on the little table before the bourkhans.

The demand in marriage is shortly followed by betrothal, which consists in the youth repairing to the khoton of his intended bride, and offering her presents of dresses and stuffs. This, which takes place without anything particular being said, gives occasion to a fresh banquet. Between the betrothal and the marriage, there sometimes elapses a whole year, or even more. During this long interval, sometimes the youth, sometimes his parents, come from time to time to see the affianced. When she has completed her sixteenth year, the parents of the youth address the ghélung, beseeching him to fix the propitious and happy month and the day for the celebration of the marriage. Afterwards, some days before the date fixed, the whole family of the young man go to the tent of the betrothed. The first day of their arrival passes in doing the honours of reception; the next day the parents of the youth declare to those of the affianced girl their desire that the ceremonies of the marriage should be accomplished, and, at the same time, they endeavour to learn, in an indirect manner, to what sum the expenses on the part of the young man would amount, and what feasts ought to be offered to the most notable guests, to the acquaintances and the parents of the girl. They never speak of dowry, since the woman ordinarily receives everything necessary for house-keeping.

The day of the marriage, the young man, with his assistants, well provided with wine and viands, repairs to his future father-in-law, where they make a great feast. When the feast is concluded, he is invited into the kibitka of his betrothed, where is exposed her entire dowry, which they shortly send to his khoton. Sometimes the entrance to this kibitka is guarded by the companions of the betrothed, armed with sticks, so that the youth often has great difficulty in gaining an entrance. In order to avoid the blows which threaten him, he offers sweetmeats to the guard. When this guard is satisfied, the young man carries away his betrothed from the kibitka, places her behind him upon his saddle, and repairs to the khoton of his parents.

Here there has been early prepared a kibitka to receive the newly married people, and it is before this that the following marriage ceremony is performed. Before the entrance they spread a carpet, and upon this is put a quilt of white felt. Behind the carpet is found the table with the idols, before which is placed, in an offering dish, a shoulder of mutton, as an emblem of riches. The affianced, surrounded with acquaintances and relatives, place themselves before the table of the bourkhans, the ghélung recites many prayers, after which he seats himself upon the carpet, takes the fold which veils the face of the girl, envelopes in it the shoulder of mutton, and presents it to her. The young man takes it in his left hand and his betrothed in the right. Then the ghélung, after having pronounced many more

prayers, raises the two affianced up and recommends them to bow three times to the earth. They execute these motions without relinquishing the shoulder of mutton, which they continue to hold in their hands, and, in making each reverence, they pronounce the following words:

"I incline myself this first time to adore my Lord God, who is my father and my mother."

"I incline myself this second time to adore my Sun, which is the light of my beloved day; and my Moon, which is the light of my beloved night."

"We swear to love one another, to respect one another mutually, and to partake in common of all the trials and all the joys of our life."

After which, the ghélung having taken an idol from the table and touched the heads of the couple, the principal and essential portion of the ceremony is finished.

The rest is accomplished in the interior of the kibitka. Having entered, the affianced incline themselves three times before the bourkhans, and seat themselves in their places, the youth on the bolster of the bed, and his affianced at the other end. After which, all the acquaintances enter and occupy their places. The ghélung takes the shoulder of mutton, cuts the flesh in pieces, and distributes them to the betrothed and their parents: the viand is consumed instantly; and the bone is preserved as a sacred thing, as a pledge of the future happiness of the new family.

Having accomplished all this, the ghélung retires, and the party devote themselves to the rejoicings they have been so long expecting, which are prolonged two or three days. Among these entertainments during the marriage feast, an indispensable part is assigned to wrestling, which is an exercise much esteemed among the Kalmucks.

The marriage ceremonies among notable Kalmucks are conducted rather differently; yet the difference only consists in this. Ordinarily, it is not the youth in person, but one of his nearest relations, who is charged with conducting his betrothed. The young man meets her on the way, and it is at this place that the principal ceremony of the marriage is accomplished. Arrived at the kibitka of her husband, the girl does not descend from the horse until she is taken off in his arms. Afterwards her horse is set free, and passes into the possession of him who first catches it.

In that which concerns the position of the woman in the Kalmuck family, it is much superior in comparison with that which occurs among other people who are on the same level of civilisation as the Kalmucks. The law, consecrated by usage, in making the Kalmuck woman full mistress of the household, determines strictly what ought to be the conduct of the man. The man has not only no right to raise his hand against a woman, but he is obliged, on the contrary, to treat her with respect. Thus, for example, in inviting a woman to dance, he ought to kneel, and carry his hand to his forehead, and afterwards to the knee of his wife. She, on the other hand, in inviting one to dance, has only to incline herself gently, and to touch

his shoulder. A man is not permitted to refuse a dish or a drink which is offered to him by a woman. Also, upon a journey, if he perceives that a woman intends to descend from her horse, he is expected to get off immediately to assist her to descend.

Such are the laws and usages of the Kalmucks with respect to their women; but, at the same time, these laws are not observed very strictly. The Kalmuck treats his wife with consideration only in the presence of other persons. When alone, it often happens that he beats her, not only for some omission or negligence on her part, but, for example, for having carelessly trodden upon the foot, the gun, or the stick of her husband, or even for having caught him with her skirt.

Divorce is equally forbidden by law, but usage gives the husband the right to send his wife back as soon as she displeases him, and that without assuring her the means of subsistence. In case a Kalmuck abandons his wife in an honourable manner, he gives an especial entertainment, to which all her relations are invited. When the repast is ended, he orders a horse out, ready saddled, to carry back his wife to the khoton of her parents.

Besides the cares of the household, the Kalmuck woman is charged with the education of her children. The birth of a child among the Kalmucks does not give occasion to any particular ceremonies. Scarcely has the new-born child come into the world, when it is carried out of the kibitka, and the first object which then presents itself to the eyes—dog, sheep, serpent, or other—yields its name to the infant. Sometimes the ghélung is invited to give it the name which he finds in his book. Besides which, each Kalmuck bears a certain soubriquet; for example, *badma*, flower, *narbo*, jewel, etc.

The Kalmucks do not reckon their age from the time of their birth, but by a peculiar calculation. Thus, the day of the new year (Nov. 24—Dec. 6) being the *general birthday*, they reckon that a child born, if only a few days, before that day of the year is two years old. The Kalmucks trouble themselves very little with the education of their children. As soon as a child begins to walk, he is abandoned to himself, and he habituates himself gradually, by his own experience, to all the privations of a Kalmuck existence. When arrived at the age of eight years, the boy is sent to some ghélung to commence his studies. These consist in learning to read and write and endure for two or three years. The master is paid by means of presents received from the parents at the commencement and at the termination of the course. The girls of the Kalmucks, as well of the poor as of the rich, do not learn to read or to write. A girl having finished her thirteenth, and the boy his fifteenth year, they convoke the near relatives, and invite the ghélungs. After a short prayer before the bourkhans, the boy or girl having attained majority is introduced, and his or her hair clipped on the temples. From this moment they are considered marriageable, and they shortly become betrothed.

The *religion* of the Kalmucks is Lamaic, or Buddhist. The doc-

trine of Buddha, undergoing corruption among the Kalmucks from generation to generation, consists at the present day of a most absurd mixture of credences.

According to their ideas, before the creation of the universe, there existed an enormous abyss, which was thirty millions of kilometres* in depth, and eighty millions in breadth. From the bottom of this abyss there came out golden clouds, which afterwards condensed into a cloud charged with lightning, and then melted into abundant rain, which formed the ocean. This ocean was nearly nine millions of kilometres in length and ten millions in breadth. In time the winds gradually formed a great quantity of froth on the surface of the ocean, and of this froth the continent was formed. In the first place, there appeared the mountain Summer, which is more than three hundred thousand kilometres in height. Upon the top of this gigantic mountain, of which we only see the half, is found a vast plain. The mountain itself has the form of a rock with four flanks. Each side of the mountain has a different colour: silvered on the side of the east, red on the west, blue on the side of the south, and golden on that of the north. Around the Summer are found four great islands, which form the four parts of the world. The isle of the south is that which we inhabit; that of the east is peopled with men who live one hundred and fifty years; the isle of the west, which abounds with cattle, is inhabited by giants; lastly, the isle of the north is peopled by peculiar beings—they each live one thousand years, and the end of their lives is announced to them by an unknown voice. Besides these four principal islands, there are also seven other smaller ones, and as many seas.

The first inhabitants of this world were divine beings, called *Tingheris*. These Tingheris primarily inhabited the seventh heaven, but at one time they lapsed into quarrel and into war one against the other. The good conquered; and the wicked *Apouris* were forced to quit heaven, and they installed themselves upon the summit of Summer. Nevertheless, the contest begun in heaven always continued, and the number of fugitive Tingheris increased so that they occupied all the islands which surrounded the mountain Summer. At the commencement of their terrestrial life, the Tingheris preserved their divine qualities. Thus, for instance, they each lived eighty thousand years, their faces were luminous, they possessed wings wherewith to fly, they went without food, etc. But one day there appeared upon the earth a certain fruit named "shime", which was as sweet and as white as sugar. As soon as men tasted it, they lost all their qualities of perfection; the brilliancy of their faces disappeared, their wings fell off, they felt the need of nourishment, and the duration of their lives sank to 10,000 years only.

As long as men had luminous faces, there was no reason or necessity for the existence of the sun and moon. But, as soon as the shining of their faces was extinguished, obscurity spread over all the earth. Then four benevolent Tingheris, named Wishna, Mandi,

* A kilometre and a little more than half (1·6 kilometres) is equal to an English mile.

Oubba, and Lukan, having taken pity on the human race, and having seized the Mount Summer in their arms, shook it so violently that the ocean of the universe was agitated, in consequence of which there appeared the sun, the moon, and the stars.

The sun, according to the doctrine of the Buddhists, is a globe of crystal, being more than 1000 kilometres in circumference. In its interior there is lodged a luminous Tingheri, whose radiant face spreads light and heat over all the earth. The sun is placed in an enormous plain, all covered with the most splendid flowers. Every twenty-four hours seven aerial horses draw it round Mount Summer. In the morning the rays of the sun fall upon the silver side of Summer, before noon upon the blue side, at noon upon the golden side, and lastly, in the evening its red side is illumined. Afterwards the sun hides himself entirely behind the mountain, in consequence of which darkness and night ensue.

The moon, according to the ideas of the Buddhists, is also a globe of crystal, but filled with water, and it also is inhabited by a luminous Tingheri. The phases of the moon depend on its more or less remoteness from the sun; and the spots which are perceived on its surface are the shadows of the different marine animals which live in the universal ocean. After having created the sun and the moon, the creative gods held a council, during which "Arakho", the wicked spirit, glided in unperceived, and drank up all the sacred water of the vase which stood before the gods. Indignant at this audacity, they decided to punish Arakho, but for a long time they could not discover where he was. They then interrogated the sun, and the sun gave them an unsatisfactory reply. They then addressed themselves to the moon, and she indicated to them the place in which Arakho was hidden. In revenge for this Arakho had frequent quarrels both with the sun and the moon, and sometimes he fought with them. During these duels there was an eclipse upon the earth.

The stars, likewise, are equally great globes of crystal, inhabited by Tingheris. One only among all the stars—it is the pole star, called the "pile of gold"—is fixed. All the others, to the number of two hundred and twenty-five millions, are transposed by aerial horses from one place to another. The fall of a star signifies the death of a Tingheri, whose soul then descends into the abyss to animate another body.

The change of seasons is produced by a winged dragon. During the whole of winter it is in repose, lying upon the seven seas. In summer it rises up with the vapours, and ascends towards the upper strata of the atmosphere. The Tingheri which rides this dragon excites it from time to time to thunder and to vomit flames. From time to time also this Tingheri himself shoots from heaven fiery and deadly arrows.

As to the past destinies of the human race, the Buddhists teach thus. Men, having tasted the fruit "shime", could not any longer do without nutriment; and, since the shime could not suffice for them all, they began to feed upon terrestrial honey and some vegetables.

The fear of the want of food has forced every one to think only of himself, and to seek to provide for the future. Indigent people began to envy those who were richer. The discord which arose among men forced them to choose chiefs charged with their well-being. These chiefs abused the confidence placed in them, and, supporting themselves upon their power, changed into despots.

In proportion as iniquities multiplied among men, their longevity decreased more and more, and at length arrived at its present degree.

During this period of continual calamities, many bourkhans, clothed in human form, descended from time to time upon the earth, and preached penitence and correction. There were four of them; and the last of them, named Shakiamouni, is recognised as the founder of Buddhism. He taught his doctrine to sixty nations, each one of which understood it differently, which has occasioned the origin of so many different religions that prevail upon the earth.

As to what concerns the future destinies of the human race, they teach that the stature and the age of men will sink by degrees, and that there will come a time at which human stature will not exceed one "arskine", which is about twenty-eight inches and a half. Then each child will speak immediately after its birth, and the next day it will be capable of undertaking its own management. They will marry at five years of age, and will not live longer than ten years. The human race having arrived at such a state will be the sign that the moment of universal destruction is at hand. Seven years before this cataclysm, the earth will become completely sterile, and the greater part of mankind will die. Afterwards a great number of swords will be cast down from heaven, which will put to death the rest of the survivors, excepting a single just family, which will be hidden in a ravine. After which the earth will be covered with dead bodies and gorged with blood. It will rain a purifying rain, afterwards a fecundating rain; lastly, a third rain will bring all that is indispensable to man. The family which was hidden will then come out from its refuge, and many other virtuous men will be resuscitated to recommence their new life, which will endure eighty thousand years, and to enjoy all the blessings of the earth.

But shortly men, forgetting past misfortunes, will begin again to do evil, and consequently their longevity will be gradually decreased. When human life will not endure more than two thousand years, there will appear upon the earth the bourkhan Maidari. He will be of high stature, and of dazzling beauty. Men, surprised with his exterior, will ask him by what means he had arrived at such perfection. To which Maidari will reply, that all this came to him in consequence of his good works, by which they also are capable of gaining the same perfection. The example and the instruction of God reacting upon men, they will be corrected, and they will live anew eighty thousand years. This second change will be followed by fifty-four new ones; and each eighth change will be accompanied by a deluge, all the others by a fire.

The Buddhist doctrines of the soul, of punishments and rewards

which are prepared for every one after death, are equally very strange. The souls of all creatures pass after death into new beings. Each soul prepares itself for this transmigration during its terrestrial life. Dwelling in the human body, the soul never seats itself in one single definite place, but every day changes its seat. Thus, on the first of each month the soul finds itself in the forefinger; the second day it resides in the foot; the third day in the calf of the leg; the fourth in the knee. In this way it ascends every day higher; at the eighth day it finds itself in the loins; the twelfth it passes into the palm of the hand; the fifteenth it spreads through the whole body; the sixteenth it seats itself in the nose; and on the last day of the month it appears in the thumb. Afterwards its migration recommences in the same order. The injury of a part, when the soul is seated in it, is always followed by an inevitable death. After death, the soul passes into one of the six reigns, and animates some other body. These reigns are the following: 1, of good tingheris; 2, of "assouris"; 3, of men; 4, of beasts; 5, of "birides"; and 6, the reign of "taman", or that of eternal pains and sufferings.

The choice of such a reign, or of another, does not depend upon the soul itself, but it is fixed by the judge of the lower regions, who takes into consideration the good works accomplished upon earth. The habitation of the judge of the infernal regions, called "Erlík-Khan", is situated in a subterranean palace, surrounded with sixteen walls of iron. It is there that all the souls of dead men present themselves before him, except those of lamas, which ascend at once towards the much happier dwelling-place of the tingheris. Each soul is escorted by two spirits, the good and the wicked, who, presenting it to Erlík-Khan, place before him white and black stones. If the white stones, which signify good works, exceed the black, then the soul, placed upon a golden throne, ascends to the kingdom of the tingheris. In a contrary case, it descends to be purified in the kingdom of the birides, which is divided into thirty-six sections. The inhabitants of this kingdom remain there five hundred years at least, and every day of these years is equal to one of our months. The souls here undergo pains more or less severe, according to the nature and the degree of their crimes. Thus, cruel chiefs and homicides are condemned to swim without rest in a sea of blood; misers, transfigured into monsters, having a mouth as small as the eye of a needle and a throat as fine as a thread, have nothing but flames upon which to feed and blood to drink. These poor damned continually rove over a desert plain, seeking in vain some nourishment. They sometimes perceive trees full of delicious fruits, but scarcely do they happen to approach them than the trees disappear, and the unfortunates behold themselves again abandoned to their punishment in the midst of the desert.

The punishments practised in the kingdom of Taman are still more terrible. Taman, situated at 200,000 kilometres below the earth, is divided into sixteen sections. In the first, the damned, half dead, are continually cast from knives to knives; and this punishment

endures for five hundred years, of which each day further equals nine millions of years. In the second section, the condemned are continually sawn. In the third, they break them in an iron press, and every time they revive they are bruised again. In the fourth and fifth sections, the condemned are roasted by the fire. In the sixth, they are boiled. In the following, they are frozen to the degree that their skin is covered with blisters, their lips split into shreds, etc. Not only men, but animals also, are condemned to undergo different pains. Thus, some are condemned to bear different burdens; others to run without rest, and to be torn in pieces by ferocious animals.

Just as the punishments of hell are terrible, so also the enjoyments of paradise, prepared for the just, are delicious. The paradise of the Buddhists is divided into five regions, each of which bears the name of one of the principal bourkhans.

The first, kingdom of *Abiddhabati*, is full of trees of silver, with branches of gold, which bear, in the place of fruit, stones the most precious. Streams of living water irrigate this miraculous country, in the midst of which is found a delightful forest, in which the bourkhan *Abiddhabati*, surrounded by the just, reposes upon a throne, which is supported by a peacock and a lion.

There are others of the just men whose souls inhabit the top of Mount Summer, where the bourkhan *Khourmousta* rules over thirty and three tingheris. The residence of *Khourmousta*, about 20,000 kilometres in circumference, has 170 gates, each guarded by 500 warriors in arms. The royal palaces, situated in the centre of the capital, are surrounded with gardens, in which the miraculous elephant wanders and feeds. The habitation of the happy souls, situated not far from the royal palace, is remarkable for its tree, as miraculous as the elephant. The trunk of this tree rises 800 kilometres above the earth; its branches are covered with leaves, each of which is nearly 40 kilometres in circumference, and the perfumes which are diffused from its flowers are perceived at a distance of about 400 kilometres.

Besides *Khourmousta*, there are also other divinities who dwell in Mount Summer. The number of the gods recognised by the Buddhists is infinite. They are divided into *tingheris*, *bourkhans*, and *raghignes*. The *tingheris* have existed from the origin of time, and inhabit the seventh heaven. The discords which have happened among them have forced many of them to descend into the inferior celestial regions, and afterwards to the top of Mount Summer. The *tingheris* are divided into good and wicked. The latter, as more dangerous, are more respected. The duration of the life of the *tingheris* differs. Each of those who inhabit the summit of Mount Summer will live 3,700 human years. Those who dwell a little lower have to live 500 years only, each day of which is as long as 500 human years. Those, lastly, who dwell in a region still lower will live still less long.

The *Bourkhans* are equally divinities, but of an inferior dignity, to which every man may rise by means of his good works. The *Bourkhans* sometimes descend upon the earth to preach penitence and amendment. Their number is very considerable. The first rank re-

turn to Buddha, or Shakiamouni, the founder of Buddhism. It is represented under a figure of a man in contemplation, seated upon the mountain Boudalah, in Tibet. Round this mountain are found dispersed rich forests full of fruit trees, and further plains extend covered with fields of rice.

The second rank among the Bourkhans is assigned to "*Maïdari*," who is governor of the future world, as Buddha governs the actual world. *Maïdari* is figured yellow, with a red scarf round his body, and his hands crossed upon the breast.

Among the other Bourkhans the most important are the four following: "*Mantsoshiri*," "*Khourmousta*," "*Erlík-Khan*," and "*Yamandagha*."

Mantsoshiri means eternal yellow. They recognise him to be the father of a thousand other bourkhans, and he is to be the governor of the world after *Maïdari*. They represent him with four hands, one of which holds a golden sword, the second a book of wisdom, and the two others bless the world.

Khourmousta is recognised as the supreme patron of the earth, and is represented under the figure of an old man, or, according to others, under the figure of a little boy, who mounts the elephant, and holds a sword in his right hand. This elephant is called the son of the defender of the earth. He is white, and is 20 kilometres in length. The pasture of this giant is a forest situated round a lake, which is 10,000 kilometres in circumference, and contains water sweet as honey.

When *Khourmousta* is disposed to make a promenade upon his elephant, then upon this last there appear in an instant thirty and three heads, each of which is armed with seven tusks. Upon each tusk there are seven lakes, in each lake seven beautiful virgins, each accompanied by seven attendants, who sound cymbals. *Khourmousta* himself is seated upon the principal head, which is in the midst, and upon the other heads are placed the thirty-three tingheris, his subjects. The cortège is accompanied by five thousand cavaliers, who also mount as many elephants.

Erlík-Khan has his sojourn in the kingdom of the "*birides*." Formerly he reigned in one of the superior worlds, but he was expelled by "*Yamandagha*." *Erlík-Khan* is represented standing upon the back of a furious buffalo. All round his body are suspended the heads of the dead. He holds a sceptre in one hand and a cord in the other.

Yamandagha, the conqueror of *Erlík-Khan*, is the most repulsive and frightful of the bourkhans. They represent him surrounded with flames and having thirty-six arms, which hold weapons, the heads of the dead, and serpents. Sometimes he is represented simply under the figure of a man with glaring eyes, staring teeth, and fire issuing from his mouth. His cincture is composed of a file of human heads, and upon his knees he holds a repulsive woman of a blue colour, who treads under her feet different monsters and men.

Besides the bourkhans who have been named, there is a multitude of others. It is remarkable that they represent them all seated,

crouching upon their feet, and they all have feminine physiognomies.

The "*Raghignes*" are divinities of the female sex, and have power equal to the preceding.

The chiefs of the Buddhist clergy are the *Dalai-Lama* and the *Bogdobatsin*. They both reside in Tibet. Formerly Dalai-Lama exercised the civil and spiritual power in the whole of Tibet. But since 1703, that is, since that country has passed under the power of China, Dalai-Lama has not only lost his civil power, but he has been obliged to divide with Bogdobatsin his spiritual power also. Notwithstanding, Dalai-Lama always exercises an enormous authority. He inhabits the palace which is constructed of stones proceeding from Mount Boudalah (a sacred mountain of Tibet), and contains nine hundred and ninety-nine chambers. At a kilometre and a half from this palace stands the celebrated temple Dshu. Every new year there assembles in this temple the clergy of the whole of Tibet, to the number of seventeen thousand men. They celebrate there day and night divine service for twenty-one days.

All the rest of the clergy is composed of Lamas. To become a lama is not an easy thing. For this, besides the three principal books Danjour, Ganjour, and Youme, it is necessary to read a multitude of others, which embrace many hundred volumes. It is also necessary to be instructed in astronomy, in medicine, and in other sciences; and lastly, which is the most difficult, it is necessary to perform the *vote*, to think upon God every moment, and strictly to execute all the commandments, the number of which surpasses two hundred.

The *Social Organisation* of the Kalmucks at the commencement of the seventeenth century, that is to say, at the epoch of their arrival in Russia, was purely patriarchal. Many families united by the bonds of relationship formed a khoton, of which the most aged was the head, and was called "*Aga*."

Many Khotons composed an "*Aimak*," governed by the "*Zaisangh*," the power of whom was hereditary from father to son.

Afterwards many Aimaks in their turn formed a commune, and many communes composed an "*Oulouss*," governed by a "*Nohyon*," or chief.

Lastly, a certain number of Oulouss, united under the commandment of a "*Taïsha*," formed a tribe. The Taïsha, who had the rank of a prince, governed personally in the principal Oulouss; and all the others he ceded to his sons and brothers, who governed there by turns. All the tribes united constituted the entire people, commanded by the *Khan*. After a certain time the dignity of Khans and of Taïs ceased to exist, and there remained only the Nohyons.

The actual rule over the Kalmucks belongs to the *Court of Domains*, at Astrakhan. This has under its direct dependence all the Noyons, to whom are subordinated the Zaisanghs and the heads of the Khotons. The Noyons have the power of inflicting punishment for crimes.

Formerly there were three kinds of punishment—corporal punishment, fine, and the degradation of the criminal in the face of the

Khoton, or of the entire tribe. Thus, for example, for disobedience to parents, as well as for rudeness or insolence to elders or chiefs, they applied to the offender, first, a certain number of blows with a stick, and then, after having daubed his face with soot, and tied a pan round his neck, they promenaded him through the whole Khoton. This chastisement is called *degradation by means of the hand*, because, to apply it, he who is charged with its execution, takes a handful of soot from the bottom of the pan, and spreads the whole handful over the face of the offender. For a theft they punished the thief by promenading him equally through the khoton by a cord round his neck. Those who met him gave him blows with a rod on his naked body, and some deride him.

The exercise of justice has three degrees: the first, which was practised in the Khoton, had a family character. The second consisted in a veritable tribunal, named "*Zargo*," and was composed of the Zaisanghs under the presidency of a Nohyon. Lastly, the supreme tribunal, after the number of its members called *Judgment of the Eight*, was composed of the Nohyons, under the presidency of the Khan. In this supreme tribunal were judged all criminal affairs of every nature. Murder was considered as the gravest of crimes. In the eyes of the Kalmucks it was a frightful sin, and absolutely unpardonable. For murder committed for the first time, the offender paid a fine, judicially decreed to the parents of the person killed, in the manner of a retribution. Besides which, he was obliged to renounce every kind of enjoyment during a certain time, to carry a red scarf round his shoulders, and to do penance during some time near a "*Khouroul*," or temple. For a second murder, the fine and the penitence were heavier, and further, the criminal was marked on the face. Lastly, he who had committed a homicide for the third time, was marked on both sides of the face, and expelled for ever from the midst of the people. In case the condemned had not the means of paying the fine, he was surrendered in person to the disposal of the relations of his victim, who had the full power to employ him in any kind of labour, as well as to sell him, or to exchange him for a flock of sheep.

In the case in which there was no confession on the part of the accused, or of failure of sufficient proof to establish the crime, the tribunal had recourse to the *oath of justification*. The most important form of such an oath was the "*Shakhan*," which has not existed for some time. To accomplish this appeal, the accused, who was submitted to the *Shakhan*, might choose an adversary, who was generally reckoned an honest man. For the accomplishment of this act, they prepared a kibitka, in which, upon an elevation, a bourkhan was exposed, before which they lit a perfumed taper. On the two sides of the bourkhan, they raised the images of punishing beings, under which were arranged the Ghelungs, with their musical instruments, employed in divine service. Upon the floor of the kibitka they spread the skin of a cow, quite black, recently skinned, and moistened with the blood of the immolated beast. Above, and to the right of the door,

inside the kibitka, they suspended the head of the same cow. Its eyes were opened wide, the tongue drawn out and turned to one side. On the left of the door they suspended a human skull, and below this last they placed a loaded gun with its lock tied up. Outside the kibitka, on the two sides of the door, were placed the judges, the accusers, and the accused.

All these preparations being made, the person chosen by the accused for an adversary was first obliged to persuade the parties to be reconciled, in order to avoid the necessity of so great and solemn an oath. If this exhortation had no success, then they proceeded to accomplish the *shakhan*, which took place in the following manner. The accused who has to swear, being undressed to his shirt, placing himself upon the bloody skin of the cow, after making three profound bows, ought to jump over the threshold of the kibitka. Scarcely has he made the first movement to advance, than the Ghe-lungs begin to sound their trumpets, little bells and metallic plates, to blow into shells, etc. These solemn sounds accompany the oath at the table upon which the bourkhan rests, and this music is only interrupted by the slow recitation of prayers. Naturally, all this ceremony must react strongly upon the imagination of the accused; but when the accusation is unjust he is not in the least confused, and comes without fear to the bourkhan; he extinguishes the lighted taper before the idol, after which, inclining himself towards the table, he seizes the heart of the cow with his teeth, which was exposed there upon a dish, and carries it out of the kibitka. Here one of the Ghe-lungs receives this revealing object from him, and passes it to the judges to be inspected. If, on inspection, there are no injuries observed upon the heart, then the accused is acquitted, and the accuser is condemned to a fine fixed upon beforehand.

All this mysterious ceremony would impress the Kalmucks deeply by its solemnity, and inspire them with sentiments of terror. And this so much the more easily, as each detail of this *Shakhan* had a certain symbolical signification. Thus, the black cow was the symbol of death, which ought to recall to the person taking the oath the enormous responsibility to which he exposed himself, if he had taken a false oath. The charged gun, with the lock bound up, signified that the perjured ran the risk of being immediately struck by divine justice. And the head of the cow, monstrously disfigured, ought to recall to him that his soul would be excommunicated from the midst of men, and driven into some frightful and monstrous being. The idol of the bourkhan spoke to him of the presence of the supreme judge, who listened to his oath. The illuminated taper signified the divine light spread abroad by the Creator, and its perfume signified the grace of God, both of which the perjured renounced and deprived himself of voluntarily in extinguishing the taper. Lastly, the heart of the immolated cow signified the innocence of the person swearing, and the purity of his intentions.

Of all this terrible oath there remains at the present day but a very small portion only in use. In doubtful and very grave cases,

the Kalmuck, who has to justify himself by means of the oath, only approaches to the table of the bourkhan, before which he prostrates himself three times to the earth, and, after pronouncing with a loud voice, "I am innocent!" he extinguishes the taper, to express that he renounces the favours of the Creator if he has lied. Such an oath is very serious, and appears to be the only relic which testifies to the ancient *régime* proper to the Kalmucks. At the present day their ancient judgment, as well as the punishments of former times, are abolished, and the Kalmucks are judged according to the common laws of the empire.

As to their actual chiefs—the Nohyons—these have preserved to the present day the same authority in the eyes of the Kalmucks which they formerly possessed. A Nohyon is respected not only by his subordinates, but by all the other Kalmucks. They dare not enter into his kubitka without having first made a sign of reverence, which consists in him who is entering touching with the palm of his hand the door of entrance, and afterwards his own forehead. In withdrawing from the kubitka they march backwards, in order not to turn the back upon the chief. If a Nohyon permits his subordinate to sit in his presence, this person thanks him by carrying his hand to his forehead; afterwards he places himself upon his knees, and resting his two hands there, seats himself lastly upon the soles of his feet. The respect and the attention of the Kalmucks towards their Nohyons manifest themselves also in the numerous presents they are obliged to offer to them on every occasion. If it be the spring that is come, is it the summer which has arrived, is it a new child born to the Nohyon, the Kalmuck does not fail to carry him some tea, mutton, even silver coin, in sign of his congratulation.

The clergy enjoy among the Kalmucks a respect equal, if not superior, to that which they manifest to their Nohyons.

The supreme chief of their clergy is a lama. Up to the year 1800 he was always instituted by the Dalai Lama of Tibet, but now it is the Russian Government which names him. The fixed residence of the Lama is at the distance of a league from Astrakhan, at *Basar Kalmouke*, by the shore of the Volga. Every summer the Lama quits his residence to make the tour of the Steppes. The lower clergy are very numerous, and are subdivided into different categories, which differ from one another, not by the degree of power they possess, but by the particular and proper attributes and duties of each category.

All the ghelungs or priests are exempt from taxes, and subsist upon the offerings they receive from the Nohyons, the Zaisanghs, and the people. These offerings consist of cattle, different objects, and money, and are ordinarily carried to the profit of the temple *Kharoul*; but they pass entirely into the hands of the Ghelongs, who have also many other sources of revenue. Thus, for example, they exercise medicine among the Kalmucks, and, notwithstanding their ignorance in this science, they nevertheless enjoy a much greater confidence among the population than any physician appointed by government.

A ghelung being called to a sick person, begins by giving him soup

to drink, pure water, or he prepares the most ordinary medicaments for him; and for nothing but this he frequently deprives the poor Kalmuck of all that he has, under the pretext of the offerings demanded for the bourkhans, the intervention of which is indispensable to procure the cure of the sick. If it is a rich man who becomes ill, then there are many ghelungs who take charge of his treatment. They do not fail to take away all that their client possesses—his treasures, flocks, and last of all his kibitka—and all this under the pretext of offerings for the Khouroul. Notwithstanding all these sacrifices, it ordinarily happens that the sick man dies, leaving all his family in complete poverty.

The principal duty of the ghelungs is limited to the religious practices of their idolatry. This service usually passes in the Khouroul, for which every common kibitka may serve. Their divine service consists in the united ghelungs reciting—to the sounds of little bells, metallic plates, tambours, and gigantic trumpets—fragments of prayers, which they read from their sacred books, for the most part incomprehensible to themselves. A ghelung never voluntarily speaks upon matters relating to his religion, and if any one of his people questions him upon this subject, he never replies, giving for his reason that it is a sin to speak about religion.

Among ghelungs, the Zourkhatches, who are occupied with the composition of the Calendars, enjoy a very distinguished authority. The chronology of the Kalmucks does not consist in reckoning the years setting out from a certain memorable date; but they count by cycles each of twelve years, to which they give a particular name of such and such an animal. The year is composed of thirteen months, each of which also bears the name of an animal. Thus the first month in the year, which corresponds to our December, is called the *tiger* month; the months which follow are those of the *hare*, the *dragon*, the *serpent*, the *horse*, the *goat*, the *ape*, the *fowl*, the *dog*, the *pig*, the *mouse*, and the *cow*. One of the months returns twice, and that is the thirteenth of the year. Each month has thirty days, and the week has seven.

The Ghelongs-Zourkhatches are greatly respected by their *confrères*, on account of their spiritual functions, and they exercise a great influence upon the whole population. It is these who are specially addressed to fix the day propitious to celebrate marriage, or to point out the kind of funeral proper for a person dead. In this last circumstance they conform to the rank, more or less important, of the deceased, or, to speak more correctly, to the greater or smaller number of sheep which the relations offer for the Khouroul. The more liberal the offering, the more distinguished is the sepulture. But since, for example, the relatives of a Zaisangh or of a Noyhon have more means for making rich offerings, their bodies are ordinarily destined to be burned, whilst the corpse of a poor man is simply interred, or even abandoned in the midst of the Steppe, to become the prey of wild animals.

The principal evil arising from this great influence of the ghelungs

over the Kalmuck population is, that it is opposed to every civilising effort; this is why all the attempts of the government to convert the Kalmucks to Christianity, and to induce them to abandon their nomade life, have hitherto almost entirely failed. Moreover, the nature of the country occupied by the Kalmucks is greatly opposed to their being able to establish themselves in colonies.

A certain traveller very judiciously made this remark, that if it could be proposed to all the academies of Europe, to point out the best means to convert those enormous and sterile deserts, which are completely lost for agriculture, into habitable and productive lands; they would with difficulty find a more practical solution of this problem than that put in execution by the Kalmucks. But, in fact, with those poor herbs, so thin and so arid, which they find in these enormous wastes, burnt up by the sun, the Kalmucks nourish millions of horses, of cows, of goats, and of camels, and transform these sterile districts into a true and rich staple of Russia. By making a great trade of the wool and hair, of the fat, of the skins, and the pelts, the Kalmucks contribute to furnish illumination and defence against cold to a great portion of the northern provinces of the empire. In this particular the Kalmucks play a very important economical part.

This interesting and full description of the peculiarities of the Russian Kalmucks displays the usual great anthropological phenomenon of *persistence of race character*; and is, at the same time, an apt commentary upon the dogma of "the wisdom of the East." The picture of priestly medicine is somewhat re-assuring to the Western world. The most elaborate treatise upon the Kalmucks is that of S. P. Pallas, which is contained in his "Sammlungen historischer Nachrichten über die Mongolischen Völkerschaften," St. Petersburg, 1776. Two vols. quarto. This work is illustrated with numerous large plates, exhibiting the life of the Kalmucks.

J. KOPERNICKI.

Description of Remains from the Dayr Mâr Mûsa el Habashi.

By C. CARTER BLAKE, Doct. Sci., F.G.S., Hon. Mem. A. I., Lecturer on Comparative Anatomy, Westminster Hospital (referred to at page 332).

THE five skulls before us belong to two broad divisions, to the first of which appertain skulls 1, 2, 4; and to the second one 3 and 5. Only one of these skulls possesses the lower jaw attached.

Skull 1.—This large and powerful brachycephalous skull, supposed by Captain Burton to have belonged to a priest, is remarkable for the characters of extreme height and shortness. It is asymmetrical, there being a slight flattening on the right side. All the sutures are open, with the exception of the lower part of the coronal, and there is a large Wormian bone separating the alisphenoid from the parietal on the right side. On the left, the junction between the alisphenoid and parietal has been so short, that the frontal and temporal bones have almost joined. The coronal suture is not very completely denticulated.

The distance between the orbits is large, and the higher portion of the nasal bones is comparatively flattened. The orbits are large, and depressed at their external superciliary borders. The superciliary ridges are undeveloped. The forehead is high; the coronal region dome-shaped; and the superoccipital bone vertical from above the greater semicircular ridge. The mastoids are remarkably small. There is a slight paroccipital on the right side. The temporal squama is small, and the zygomata weak, producing aphaenozygism. The malar bones are, however, large and forwardly developed. The nasal spine is large. The palate is shallow and flat. The teeth are absent. The *foramen occipitale* is large and rounded. There is slight exostosis on its anterior border. The form of the forehead and general contour of the skull may be figuratively said to resemble, though it is larger than, the ordinary extreme brachycephalous type found at Pachacamac, in Peru, and amongst the Malays. As with the other skulls of this series, the measurements are appended at the end of the present description.

Skull 2.—Of smaller dimensions than the preceding; this elegant young female, with graceful aquiline nose, repeats most of the characters previously indicated. It is very asymmetrical, the flattening on the left side being proved to have taken place through life, by the existence of a large Wormian bone in the left half of the lambdoid suture. The age of the individual was not more than eighteen. The coronal suture is deeply denticulated, and the alisphenoido-parietal suture is long. The coronal region is carinated transversely along the direction of the suture, in concomitance with the forward compression of the parietal bones by the artificial pressure which has taken place since birth. I regard this to have been entirely due to a "suckling board". This is, however, not the cause of the absolute and natural brachycephaly of the skull, which appears to have existed without any adventitious aid from the mother or nurse. The second molar on both sides is in place. It is normally quadrate, and does not show marks of erosion. The canine and first premolar also are *in situ*; the former being acuminate. The nasal bones are large, arched, and curved. The orbits are small and rounded.

Skull 3.—*Vide infra.*

Skull 4.—Another brachycephalous calvarium from the same locality, in which the facial bones are entirely absent. The present specimen exhibits a greater globate and rounded character of the frontal region than skulls 1 and 2. The coronal suture has been partially obliterated on the right side towards its lower region, and the junction with the alisphenoid bone is not clear. There is a slight *probole*. The occipital foramen is very small. The lambdoid suture is closed and almost obliterated at its apex. The mastoids are large, and the supramastoid ridge is thick.

All the above skulls belong to the same race.

Skull 3.—The resemblances which exist between the skulls of the Phœnician branch of the Shemitic race and the negroids of Abyssinia are so great that the chief point of interest in the description of the present and following skulls will lie in the discussion to which race

they belong. The resemblances which the present specimen exhibits to the large meciostocephalic skull from Palmyra (No. 2 in description above, p. 314) are great, yet comparison with some of the skulls from Eastern Africa will show, according to my opinion, more strongly marked points of likeness. It is in the frontal region where these are most manifest. The present long orthocephalic skull, which is nearly perfect, with whitened condition, manifestly distinguishing it from the other four, and pointing to the existence of a greater lapse of time to which it has been exposed in a clear desiccating atmosphere, is well curved above and behind its retrocedent frontal bone, whence it arches gently along the parietals, across the superoccipital squama to theinion. The occiput thence shelves gently down to the narrow and small foramen magnum. The age of the individual has not been above twenty-three, as shown by the condition of the wisdom teeth. The palate is high and deep, but not, as in the Phœnicians, excessively so. The second molar shows the condition of partial quadricuspidation to which in some controversial remarks* I have called attention, as being rare in the negro races. The first molar is large and eroded. Only the molar series on the left, and the second and first molars and first premolar on the right are in place, the right *dens sapientie* not having been developed beyond the alveolus, and the remaining teeth having fallen out since death. All the alveoli are in good condition. The basisphenoid bone is thin and narrow; the glenoid cavities deep and broad, and there is a slight paroccipital process. The mastoids are large; the condyles as large as may be expected from the size of the skull. The *norma verticalis* shows a small narrow forehead with ovoid parietal bones. The coronal suture, which is deeply serrated, but not complexly denticulated, is more closed on the left than on the right side; yet the cranial contour is symmetrical. The zygomatic arches are thin, and the malar prominence, instead of being forward, as in the brachycephalous skulls of the present series, is lateral. The nasal bones are forwardly produced, not arched as in the other series, and there is no deep supranasal notch. The superorbital foramen is converted into a notch on both sides. The maxillary is slightly prognathic. Whilst the sutures in the forward part of the skull are tolerably closed, the lambdoid suture, and especially the *additamentum mastoidalis*, are open and highly denticulated. The supraciliaries are slight, and the glabella forwardly produced and prominent. The measurements of the present skull will, perhaps, show best its points of distinction from the Phœnician type.

Skull 5.—The "priest's skull, with skull and mouth stuffed with wool," of Captain Burton (p. 330) exhibits so many points of interesting accordance with skull 3, that it is much to be regretted that its semi-mummified condition, with so much of the integument remaining, precludes exact comparison with it. Nevertheless, as it affords evidence of the manner of interment of the ancient monastic residents at Dayr Mâr Mûsa el Habashi, I do not think it necessary to remove the wool and integument in order to prove my assertion. The lamb-

* Reader, March 1864.

doid suture is the only one visible, and shows deep and complex denticulations. The lower jaw is large and powerful, with deep sigmoid notch. The angle is exerted. Some of the cervical vertebrae are attached by the integument; and the base of the skull is in a condition which precludes accurate measurement. The canine teeth are acuminate, the incisors, with one exception, having fallen out. The molar teeth are not much eroded. The palate is broad, not deep or high, but angular. The supracanine notch is deep. The frontal bone has not been as low as in the skull No. 3. The proboscis is large and long. The mentum is mesepicentric, and the mandible shows strong dental prognathism.

The question will be of interest to what race the three brachycephalous skulls appertain. On this subject the opinion of Captain Burton will necessarily be of more value than my own speculation. He says:—"The Már Músa skulls may be Osmanli, or rather Tartars, for the convent has been inhabited during the last century."

We, therefore, have two entirely discordant types, one in which the cranial index ranges from '74 to '76, and which I associate with the Eastern African negroid type, and not with the Shemite of Syria, and the other with a proportionate diameter between '80 and '90, which appears to be identical in cranial conformation with the existing Turkish race. It may be generally said, therefore, that three of the skulls from Dayr Már Músa el Habashi are Turanian and two negroid.

A friend furnishes me with the following notes about St. Moses the Abyssinian:—"Before Mousa was a Mar, he was a robber. There is an abstract of his life written by Palladius early in the fifth century. It does not at all follow that because the skulls were found within the precincts of the monastery that they were, therefore, priests' skulls; for in the east, in the large monasteries, containing sometimes fifteen hundred monks, there were very often no more than three priests. Mar Moses was ordained very late in life. He was a tremendously muscular Christian, having on one occasion taken four of his former companions on his back to his monastery; in the 'Historia Lansiaca' he is spoken of as being an Abyssinian."

Table of Measurements, according to Dr. Barnard Davis's System, in Centimètres.

	A.	B.	C.	D.	E.	F.	G.	H.	I.	J.	K.
	Internal capacity.	Circumference.	Fronto-occipital arc.	Intermastoid arc.	Length.	Breadth.	Height.	Length of face.	Breadth of face.	Prop. of Breadth to Length.	Prop. of Height to Length.
Skull 1	50.5	34.5	39.5	16.6	15.1	11.5	..	12.3	.90	.69
Skull 2	49.5	35.0	39.5	17.0	14.4	12.0	..	12.1	.84	.70
Skull 3	55.0	37.5	39.5	18.3	14.0	10.5	..	11.4	.76	.67
Skull 4	52.5	33.0	39.0	16.8	15.0	11.0	..	..	.80	.65
Skull 5 (approximate)	50.0	35.5	34.7	17.8	13.3	10.8	12.5	11.4	.74	.60

DESCRIPTION of REMAINS from HUMS (Emesa). By C. CARTER BLAKE, Doct. Sci., F.G.S., Hon. Mem. A. I., Lecturer on Comparative Anatomy, Westminster Hospital (referred to at page 337).

THE brachycephalous skull from the ancient Roman bath at Hums is in two pieces, but sufficient remains to show that it appertained to the short-headed variety of the Romano-Latin stock. In fact, it is indistinguishable from the majority of skulls found in Roman sepulchres and belonging to the unmixed conquering race. The owner was a woman not of advanced age (as shown by the open condition of the sutures), but in which the dental series must have decayed early, as inferred from the absorbed condition of the alveoli. The nose was, in life, fine, delicate, and sharp; the brow ridges prominent; and the orbits large. The forehead is evenly and regularly bombate; and the lambdoid sutures are open, the latter not being completely denticulated, and there being one very small Wormian bone in the left half of the lambdoid. The occiput is strongly marked. The bones of the skull are thin and delicate. It is difficult precisely to compute the proportions of the present specimen; but I estimate the length to have been 166 mm., and the breadth 133 mm., giving a cranial index of .80.

The occurrence of a skull of the Roman type amongst the remains from Hums was an event to be anticipated, and the skull is interesting, as it affords a specimen to compare with the other skulls of Phœnician, Jewish, Negroid, and Tartar origin brought by Captain Burton from Syria.

DESCRIPTION OF PLATE X.

Figs. 1, 2, 3, 4. Views of the Adult Skull (No. 2) from Palmyra.

1. *Norma frontalis.* 2. *Norma occipitalis.* 3. *Norma lateralis.* 4. *Norma verticalis.*

Figs. 5, 6, 7, 8. Views of the Child's Skull (No. 4) from Palmyra.

5. *Norma verticalis.* 6. *Norma lateralis.* 7. *Norma frontalis.* 8. *Norma occipitalis.*

EXPLANATION OF PLATE 14, BY AUGUSTUS W. FRANKS, Esq., F.S.A.

Flakes, etc., from Mount Lebanon; collected in 1864 by M. Louis Lartet.

1. Flint nodule, roughly clipped at one end. Small rude flakes resembling 9 have been struck from it.
- 2-7. Flakes, the edges of which show marks of 'use'; 4 and 7 are 'used' on both edges, the others only on one.
8. Thin flake of violet-tinged flint, lower end broken off; upper end dressed to a semi-circular edge, forming a scraper.
9. Complete flake, one end forming a scraper like to 8.
- 10-12. Unused flakes; 10 and 12 are broken; 10 is an 'angle' or outside flake, i.e., one of the first struck 'from a core.'

ERROR IN NUMBERING A PLATE.

The Plate of Skulls numbered 10 should have been No. 12, and should be stitched at page 314.

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PRINTED BY T. RICHARDS, GREAT QUEEN STREET, W.C.

APPENDIX.

Proceedings of the Anthropological and Ethnological Societies of London prior to the date of amalgamation.

ANTHROPOLOGICAL SOCIETY.

DECEMBER 20TH, 1870.

DR. CHARNOCK, VICE-PRESIDENT, IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

The following new members were announced :—HENRY WALTER BELLEW, Esq., Peshawar, India; CHAS. CORNISH BROWN, Esq., F.R.G.S., 7, Lansdowne Place, Clifton; and FRANCIS TAGART, Esq., F.R.G.S., Old Sneyd Park, near Bristol, and 34, Craven Hill Gardens, W.

The Rev. W. W. LA BARTE, M.A., of 1, Victoria Place, Brighton, was elected a Local Secretary for Brighton.

The following presents were announced, and thanks of the meeting voted to the donors.

FOR THE LIBRARY.

From the SOCIETY—Bulletin de la Société Impériale des Naturalistes de Moscou. No. 1, 1871.

From the EDITOR—Nature; to date.

From E. J. BRILL, Esq.—Catalogue du Magasin de livres anciens et modernes de 1870.

From the INSTITUTE—Proceedings of the Royal Colonial Institute. No. 1.

The following paper was read by the author :—

I.—A DESCRIPTION of some ARCHAIC STRUCTURES in CORNWALL and DEVON. BY A. L. LEWIS, Esq., F.A.S.L.

ON attending the meeting of the British Association at Exeter, (1869), I took advantage of being so far on the road to pay a visit to some of the megalithic and other remains in the southern extremity of Britain, and I have ventured to bring a short description of those I visited before your notice—not because I have any new facts to mention concerning them, but because it is well to multiply authentic descriptions of these monuments, which are so frequently being destroyed, and because it occurred to me that, though many Fellows of this Society are far better acquainted than myself with that part of the country, there are probably some who have not hitherto given much attention to the remarkable remains of which it contains so many.

Before considering the antiquities of Cornwall it may be well to mention some things, which, though not unlike antiquities, are of a very modern date. Thus the archæologist will see in the middle of a

field a stone pillar, which he may take for a small menhir; but he will, if he looks carefully, see these in so many fields, that he will at last make inquiries, and will find that they are placed there for cattle to rub against. As, however, this custom does not prevail in many other parts of Britain, I am inclined to think there may be some lingering relic of superstition about it, the more so as there seemed some little hesitation in replying to inquiries on the subject. Similar posts are sometimes used for fencing off parts of the fields by means of wires running between them. The archæologist will also find in some fields small tumuli, frequently covered with large cabbages, but he must not mistake these for sepulchral barrows, inasmuch as they are merely a kind of manure heap. But perhaps the most dangerous source of error, and one which has, I believe, really misled many able antiquaries, is the fantastic manner in which the native granite frequently crops up through the thin soil.

With these preliminary observations I will proceed to describe the various structures which I visited. My first excursion was from Penzance to DANCE MAEN (St. Buryan's), now better known locally as the "Merry Maidens;" and here I may remark that nearly all the circles in this neighbourhood are called "Merry Maidens," or "Nine Maidens," irrespective of the number of stones really contained in them—the tale running that the stones are maidens petrified in the act of dancing on Sunday. Dance Maen is as nearly a circle as possible, the diameters being seventy-five to seventy-six or seventy-seven feet. It consists of nineteen upright stones, each from three to four feet high, one and a half to three and a half feet wide, and six to eighteen inches thick. The distances between the stones vary from five and a half to eleven feet, but on the east side is a gap of twenty and a half feet, where another stone may possibly have stood, or which may have been left as an entrance. There are two flat stones forty to fifty feet in a southerly direction, and one flat stone about a hundred and eight feet in a north-easterly direction; these stones are about the same size as those composing the circle, and may once have been upright. The positions of these outlying stones correspond as nearly as possible with those described by Col. Forbes Leslie, as connected with a circle in India, and they also correspond with similar stones in other English circles. It is also worthy of note that the present number of stones in the circle, nineteen, is the same as is supposed to have formed the small inner oval at Stonehenge. The small size of the stones, and their situation in the middle of a ploughed field render it wonderfully fortunate that they should have been so long and so perfectly preserved. A short distance to the north or north-east are two stones, about thirteen and sixteen feet high, which are supposed to be the "Pipers" who played to the "Maidens", and were involved in the same doom, but I do not know whether they had really any connection with the circle.

Near Dance Maen, by the side of a road, is also a stone, about four or five feet high, having a hole through it of about six inches diameter.

From Dance Maen I found my way to the LOGAN ROCK, a huge block of granite, weighing, it is said, sixty to seventy tons, which is perched

on the summit of the cliffs by the sea-coast, and rocks slightly when pushed. This was long believed to be a work of the Druids, but is beyond all reasonable doubt a natural phenomenon. The promontory on which it stands (called Treryn Castle) has, however, been cut off by a double if not a treble line of banks and ditches.

On returning to Penzance I turned off to see a circle called the "NINE MAIDENS" at Boscawen-un, but the manner in which it was overgrown with furze, and the gathering darkness prevented my taking measurements of it. It appeared, however, to be about sixty feet in diameter, and to consist of nineteen stones, about the same size as those at Dance Maen (and the same number), with one nearly in the centre, leaning in a north-easterly direction, and about nine feet high, by two and a half by one and a half.

Colonel Forbes Leslie and Dr. Borlase give an engraving of some circles at Botallack, interlacing one another in a most remarkable and inexplicable manner, and my next excursion was in search of these. I am not prepared to say positively that they did not exist when Dr. Borlase wrote, a century ago, or that they do not exist now,* but, although I made careful inquiries, the only thing I could find in the neighbourhood was a circle called the "NINE MAIDENS," situated on the southern side of a hill called Carn Kenidjack. This so-called circle is really an oval, its diameters being about sixty-five and sixty-nine feet. It consists at present of thirteen stones, of which nine are upright and four fallen—about eight more would be required to make the circle complete. The stones are from three to five feet high or long, sixteen inches to two feet nine inches broad, and ten to eighteen inches thick. The granite crops up in patches all round this circle, and indeed quite up to the top of Carn Kenidjack, where it forms a natural wall, several feet high; and in another field, about thirty yards west, are some small stones which appear to form the half of a circle, twelve feet in diameter, with one in the centre, and two in a north-easterly direction, but I believe these are naturally placed.

From this spot I made my way to CHUN QUOIT, a dolmen of the kind which I have in another place† classified as sepulchral. It consists of four upright stones, two of them seven and a half to eight and a half feet long, and one to one and a half feet thick, rising about four feet above the ground outside, and seven feet above the ground inside: they stand about five feet apart, forming the sides of a chamber, one end of which is almost entirely closed by another stone, rising about four feet above the ground outside and four feet in width, the other end being partly closed by a stone, which was about a foot too narrow for the purpose, and the sort of narrow doorway thus left was apparently filled up with loose stones, about the size of the granite cubes used for street paving, which have since been thrown down inside the chamber, but one of the large side-stones has slipped to such an extent as to close up this entrance. This chamber is covered with a slab, about twelve feet across each way and eighteen inches thick.

* W. C. Borlase, Esq., F.S.A., a descendant of Dr. Borlase, tells me that they stood in front of Botallack Manor House, but do not now exist.

† Paper read before the British Association, 1869, Section D.

The thin earth and lumps of granite have been heaped up round it to a height of at least three feet, which has caused some archæologists to suppose that it was surrounded by a circle of stones, a statement which I think admits of much doubt, although there are two or three small stones standing upright among those which are heaped up round it.

A short distance from Chun Quoit, on the summit of the hill on the side of which it stands, is CHUN CASTLE, a double circumvallation, composed of lumps of granite heaped together, forming walls about five feet high, and now somewhat thicker at the base. The inner circle is about a hundred and forty feet in diameter, and the outer circle is about fifty feet from it. It has no ditch.

Between Chun Castle and Penzance is the MEN-AN-TOL, an upright stone, three feet eight inches high, three feet ten inches wide, and about one foot thick, having a hole about eighteen inches in diameter through it. It faces about north-east and south-west, and has a four-sided upright stone, four feet high and one and a half feet across each side, placed seven and a half feet to the north-east, and a stone, similar, but three-sided, at the same distance to the south-west, against which another similar stone lies flat on the ground. Beyond each of these two equidistant upright stones, but not in the same straight line, stands a small upright stone. This extraordinary construction, which, in its present condition, resembles no other monument that I have ever heard of, has the reputation of curing certain pains, provided the afflicted person crawls through the aperture in the central stone. Notions of a similar kind to this have, according to Col. Forbes Leslie, prevailed from India as far as Ireland and Scotland, and it is probable that such may have been the original object of this peculiar monument. Some, no doubt, would connect it with phallism, and I am not prepared to say that they would be altogether wrong.

LANYON QUOIT stands a short distance below the Men-an-Tol, and appears to be a dolmen of the kind which I have denominated sacrificial, being neither closed up in itself, nor banked round with stones or earth, nor suitable in any way for receiving interments. It now consists of three upright stones, each about four feet ten inches high, three to four and a half feet wide, and one foot thick, supporting a flat stone about eighteen feet long, nine feet wide, and one and a half feet thick.* On the western side is a flat stone, broken in two, which was once another support. On the north side is a stone which may have lain flat and served as an altar, for it must be borne in mind that I do not imagine the cap-stone of the dolmens I term sacrificial to have been used as the altar. This structure was blown over during a violent storm in the autumn of 1815, but has been set up again.†

There are in the country round Penzance many other remains fully as interesting as those which I have attempted to describe, but the

* The measurements given are in all cases the extreme measurements, the stones being almost always more or less irregular in shape and size.

† Dr. Borlase represents it as about seven feet high; but his descendant, Mr. Borlase, suggests, as I think with great probability, that the supporters may have been shortened when it was restored.

time at my disposal did not permit me to visit them. My next excursion was to CARNBRAE HILL, near Redruth, a spot abounding in remarkable natural formations of granite, amongst which Dr. Borlase found numerous Druidic remains, but where I, notwithstanding much searching and inquiry, found nothing of the kind, though of course such may have existed a century ago, when Borlase wrote.

Near Liskeard, which was my next point of departure, in the parish of St. Cleer, is the TREVETHAS STONE, another dolmen, which formed a closed chamber, into which entrance, however, is practicable (or was before the supporting stone at the back was thrown down) by a hole in the front supporter, three feet high and two feet wide. This dolmen stands on (not in) a mound three feet high, and consists of seven supporting stones, one behind (fallen), two at each side, one in front, the largest of all, and another in front, which, as it does not seem to bear any of the weight of the capstone, may only have been placed there to make up the mystic number, seven. These supporters, of which the highest are in front, causing the capstone to slope like the roof of a house, are from five to nine and a half feet high from the mound on which they stand, from three to six feet wide, and ten to eighteen inches thick. The capstone is about sixteen and a half feet long, eleven and a half broad, and one foot thick, and has a hole about six inches in diameter at the front end, at a height of about fifteen feet from the ground. The front of the chamber faces between south and east. Closed dolmens standing on mounds, and believed to have been used sepulchurally, are described as existing in Southern France by M. Cartailhac; whether this dolmen was sepulchral or not I am not able to say positively.

In the same parish (St. Cleer) are the circles called "The HURLERS," from a notion that they are the remains of persons who were petrified for "hurling," or playing ball on Sunday. Owing to the extent of ground (about five hundred feet) which they cover, I was not able to take complete measurements of them, but they appear to be three ovals, rather than circles, strung as it were on a line running in a north-easterly direction (the same direction in which the outlying stones are found in so many other circles). The most northerly oval is, as nearly as I can tell, a hundred to a hundred and fourteen feet in diameter, and now consists of six upright and seven fallen stones, none of which are six feet high. The centre oval, if it were complete, would be about eighty feet from this one, and its diameters would be about a hundred and twenty-five and a hundred and thirty-five feet; it now consists of ten upright stones and two fallen ones, beside some stumps or fragments in the inside of the oval; these stones are from three to six feet high, and of proportionate breadth and thickness. The southernmost oval is about seventy-five feet from this one, and is about one hundred feet in diameter; it has now two upright stones and six fallen, which are of similar dimensions to the others. About seventy or eighty yards to the west of this southernmost oval are two stones six feet high, in a leaning position—a position mostly observed in the outlying stones connected with circles. All three ovals are now in a very ruinous and incomplete condition. Here again we

have outlying stones in a south-west direction, while the arrangement of three contiguous circles resembles the circles at Stanton Drew in Somersetshire, and some figured by Colonel Forbes Leslie as existing in India.

My last centre of operations was Moreton Hampstead, in Devonshire, from which I visited the "LONGSTONE CIRCLE," on Scorhill Tor, Dartmoor. My measurements of this monument are somewhat imperfect, but, as far as they go, indicate it to be an oval, the diameters of which are respectively a little less and a little more than eighty feet. It now consists of twenty-four upright and six fallen stones, besides two which lie prostrate inside the north side of the oval. The stones stand at distances varying from six inches to ten feet, but mostly about four to six feet from each other, except on the south-east side, where are three gaps, perhaps entrances, each about twenty feet wide, and separated from each other by two groups of upright stones, three in each group. The stones are of all shapes and sizes, from two and a half to eight feet in height, one to four feet in width, and ten inches to three feet in thickness. Here again a small stone is found in a leaning position, seven yards in a north-easterly direction from the circle.

At Drewsteignton, about five miles from this circle, is situated the SPINSTER STONE, a dolmen of the class which I have denominated "sacrificial." It consists of three upright stones supporting a capstone at an elevation of five and a half feet from the ground: the uprights are from four to six feet wide, and one and a half to two and a half feet thick; the upright at the back receives the capstone on half its width only, the other part of the upright rising to a height of seven and a half feet from the ground. The capstone is thirteen and a half feet by nine, and two and a half thick. This structure was blown down in 1862, but restored by the rector of the parish, the Rev. W. Ponsford, whose name therefore deserves commemoration in the records of this Society. On the occasion of its restoration the ground beneath was disturbed, but no traces of an interment were found, and, as the dolmen itself is in no way fitted for a sepulchral chamber, there is every reason to believe that it was erected for some other purpose. Here, as at some other places, the front of the dolmen faces to between south and east.

There are many other interesting remains in this neighbourhood, but the only one I had time to visit was the ancient town now called GRIM'S POUND, which is situated in a sloping valley, between two tors, on the moor, about six miles from Moreton Hampstead. It consists of an irregular oval, enclosed by a wall formed of lumps of granite heaped together to a height (at present) of three or four feet, and a thickness at base of about seventeen feet; but it is probable that this wall may, when erected, have been more compact and higher. To the east and west are entrances about eight feet wide, which were paved for about thirty feet, and probably closed with wooden gates or barriers. There is no ditch. The space enclosed is, as nearly as I could judge, about four hundred feet in diameter, and contains numerous circles of stones about fifteen feet in diameter, which are believed to be the

foundations of huts. These stones are of a very irregular shape, and probably supported conical roofs of wood and thatch, the interstices in the whole structure being stopped with clay or mud. A small streamlet runs through the site, and is said to have been conducted there artificially, but this I had no time to verify. The situation, though commanded by the tors on either side, is well chosen, and though less defensible, is more agreeable than the usual position on the summit of a hill. I do not know whether any excavations have been made on this site, if not, I should think many interesting remains might be obtained from it at a comparatively small cost.

And here, had I the requisite descriptive and poetic faculties, I might appropriately close with a sketch of ancient life in Grimspound. I might picture this now solitary and desolate valley filled with the hum and stir of a busy town—the women carrying water from the brook, weaving rushes and basket-work, or occupied in other domestic offices; the men preparing weapons for the chase or war, or tools for more peaceful occupations; issuing forth to take part in the mystic ceremonies conducted at the neighbouring circle on Scorchill Tor, or at Drewsteignton, or sallying out to the chase, or perchance to war in their formidable chariots, if indeed this settlement were not abandoned before the introduction of those vehicles.

I might even ask, perhaps, whether our boasted “progress” has added so very much after all to the general happiness of the population; for though the lives of our ancestors in Grimspound were probably rude and simple, and their toils unenlivened by meetings of the Anthropological Society, it is also probable that there was amongst them little of that awful grinding misery which destroys our poorer classes, and still less of that intense toil and anxiety which overwhelm our middle, and, to some extent, even our upper classes.

DISCUSSION.

Dr. CHARNOCK thought the Society was greatly indebted to Mr. Lewis for his paper, and especially for the admeasurements of the different monuments. The author considered that the Spinster Stone at Drewsteignton could not have been used for sepulchral purposes, but he admitted that the capstone was at an elevation of five feet and a half, and if so, for what purpose could it have been designed? Certainly neither for sacrificial purposes nor for an altar. With regard to the *Men-an-Tol*, described by Mr. Lewis, and in answer to certain remarks that had been made as to artificial monuments in Cornwall, Dr. Charnock said Polwhele was of opinion that the perforation in the Tolmen in Constantine was natural. The term *Tolmen* meant “stone with a hole,” but this word must not be confounded with *Dolmen*, which signifies “table stone” (*taul-mean*). It had been stated that the terms *Merry Maidens*, *Nine Maidens*, and *Dance-Maen* had been used indifferently to denote certain stone circles in Cornwall. It might be questionable whether the two former terms and also that of the *Hurlers* were English appellations, or simply corruptions from the Cornish. The letter *d* was commonly found as an interpolator; thus *puddle* was a corruption of *pool*. But this was still more common in

the Cornish dialect; thus, *pen, fen, ben*, became *pedn, fedn, bedn*; and *ton, todyn*. Now *merc-mynn* would signify "the great stones." *Nine maidens* might have the same meaning in Celtic (*an-ain mynn*); but it probably meant "the old stones" (*an-hên mynn*). This was corroborated by the term *Dance maen*, in Cornish, *dawns-men*. By-the-bye, this term did not mean "dance stones," but the "stone dance," and was so called, according to Polwhele (quoting Mayle), from being placed so as to make an area for dancing. Then again, with regard to the *Hurlers*, it was possible that the first part of the name had been dropped, and if so it would mean the "stones upon or near the water" (*mynn uar-lhyr*); and this derivation is confirmed by the fact that the *Hurlers* are situated in the parish of St. Clear, a little north of Liskeard, which is near the Looe river. Dr. Charnock fully agreed with Mr. Lewis's remarks on so-called progress.

Mr. QUARITCH was convinced that the apparently English names of the Celtic monuments of Cornwall can be explained only in Celtic. He gave an account of the Cornish literature, which is very trifling, consisting only of two MSS. at Oxford, and two miracle plays, which were published for the first time at the beginning of this century. These have been re-edited by Mr. Norris, who has also compiled a Cornish grammar, and published a complete Cornish literature in two volumes octavo. Borlase, besides his published researches, left a large collection of MSS., which came into the hands of the St. Aubyn family, with whom they still remain.

Dr. CARTER BLAKE corroborated the opinion of Dr. King that some of the circles may have been used to enclose game. Many, however, of these circles were too large, and others too small for this purpose. The ancient Peruvians, however, admittedly used such circles for these purposes.

Mr. DENDY, when exploring the Scilly Islands was much struck with the illusions people might fall into as to the natural or artificial production of objects to be met with. A variety of granite blocks are heaped on each other, and the uppermost stone often takes the human appearance. This is especially observable of a stone situated about a dozen miles from the Cheese-wring, which is a perfect model of the Sphinx. The Cheese-wring itself has much the appearance of the great head of the "young Memnon."

Mr. WAKE thought that the use of the *Men-an-Tol* was connected with the notion of the "new-birth," which was so prevalent among the peoples of antiquity. This was the central idea of the ancient mysteries. The Brahmins are called the "twice-born," and the custom of passing through the hole, apparently associated with the *Men-an-Tol*, is still practised among the tribes on the north-western frontier of India. The use of the stone circles may, perhaps, be judged of by the practice of the South-Sea Islanders, some of whom, according to Lamont, have stone circles. These are called *mara*, and they are the sacred places of the tribes, where their superstitious ceremonies take place, and their chiefs are buried. The Marquesan *mara* answers well to the Kafir *isibaya*, which is used for similar purposes.

Dr. KING and Mr. CHARLESWORTH also joined in the Discussion.

Mr. LEWIS, in reply, agreed with Mr. Charlesworth, that Dance-maen would be a very extraordinary kind of game trap, the spaces between the stones varying from five to twenty feet; nor did he think with Dr. Dendy that the structure had been materially interfered with since its erection. A mere circular arrangement of stones might be set up for many purposes, but the peculiar features of the circles he had mentioned were the outlying stones, which were clearly set up for a definite purpose, and which marked their affinity with the Indian circles. He thought the frequent oval form of the so-called circles had reference to the egg symbol, which might also be connected with Phallism. Replying to Dr. Charnock, he said he did not think that the capstones of the dolmens were used as altars, but that altars were placed in front of some of the dolmens. Stones suitable for this purpose still existed at Lanyon and at Drewsteignton, and three stones arranged like the supporters of some of the dolmens, but without a capstone, were found in connection with some of the sacrificial circles.

The following paper was then read :—

II.—*SOME OBJECTIONS to the THEORY of NATURAL SELECTION, as explained by Mr. A. R. WALLACE.* By HENRY MUIRHEAD, Esq., M.D.

I HAVE been much pleased and edified by the perusal of Mr. A. R. Wallace's *Contributions to the Theory of Natural Selection*, but I have not been altogether satisfied with some of the conclusions. I have therefore noted down some of my objections, with other observations, chiefly with a design to learn whether some of my views are new or true, and what may be said against them.

At page 315 Mr. Wallace says, "Man, by the mere capacity of clothing himself and making weapons and tools, has taken away from Nature the power of slowly but permanently changing the external form and structure in accordance with the external world, and which she exercises over all other animals." Man by his intellect has been enabled more than any other animal actively to modify surrounding agencies, instead of somewhat passively permitting these to modify him. If a man could modify all his surroundings to his will, he could live for ever. Still each individual plant or animal must possess this power to some extent, else it ceases to live. Again, at page 348 he says, "Two characters can hardly be wider apart than the size and development of man's brain, and distribution of hair on the surface of his body, yet they both lead to the same conclusion, that some other power than natural selection has been engaged in his production." Why there should have been more interference with these than with the size and hairiness of a mouse's tail I cannot conceive. If we cannot imagine the Universe without a Deity, we cannot logically conceive any part thereof without Him. He must interpenetrate every atom if He be omnipresent, and be aware of every atom's every movement if He be omniscient.

Mr. Wallace, at page 343, says, "Comparing the savage with the civilised man above him, and the brutes below him, we are alike

driven to the conclusion that in his large and well-developed brain he possesses an organ quite disproportionate to his actual requirements, and in advance, only to be fully utilised as he progresses in civilisation." "The brain of pre-historic and savage man seems to prove the existence of some power distinct from what has guided the development of the lower animals through their ever-varying forms of being."

The notion that millions of big brains have been provided, perhaps for hundreds of thousands of years for beings to whom the large size was useless, nay, detrimental, by reason of weight and magnitude, that said size might in after ages become useful to a remote descendant and his progeny, seems to me ascribing to nature and to nature's God a want of resource and a waste of power which, if displayed by a human architect or engineer, we should certainly call bungling, and would surely be anything but the "survival of the fittest."

Talking of "survival of the fittest," it strikes me that "survival of the fortunate" would have been a more fortunate choice of phrase. In the example which Mr. Wallace furnishes of "an oak dropping millions of acorns", or the innumerable seeds of plants on which small birds feed, or the ova of many fishes, the chances are hundreds to one, I should think, that the fittest will not survive, but only the fortunate. In fact, in the case of seeds and ova, as their devourers must deem the seemingly best the fittest for food, there appears much probability of the survival of the unfittest being the predominant law in these regions of the animal and vegetal kingdoms.

If every individual that comes into being grew up to maturity, and then the struggle for existence commenced, "the survival of the fittest" would have been the appropriate phrase; but we all know that such is not the case. I call those individuals fortunate which, in addition to being endowed with attributes more than ordinarily conducive to safety, manage to escape "the ills that flesh is heir to," and so grow up and leave progeny. But those attributes which conduce to safety are not the causes of variation, but the consequences. In fact, an attribute which turns out of pre-eminent utility to a race tends to depress and extirpate other attributes (variations) that may crop up. This Mr. Wallace has ably shown to be the case with regard to man's intellectual abilities—these interfering with the spread of many other variations in man and other organised beings.

What, then, is the origin of the variations of individuals? From what causes do varieties spring? Simply from dissimilar incidences or combinations of surrounding agencies. No two individuals have identical relationship with the surroundings: more especially in the order or sequence of incidence. And unlike causes are followed by unlike effects. The surroundings or agencies are divisible into two classes, viz., 1st., ancestral or conservative; 2ndly, personal or reforming. The ancestral descending from the progenitors tend to conserve their own endowments in their own family, so that child resembles parent. The personal (or non-ancestral) agencies tend to alter the ancestral endowments, and insert marks of their own influence on the individual. Thus every unit of a race is subjected to the influences inherited from a long line of ancestors, and also the personal influences

of a multitude of surroundings. But mark, no sooner does any personal variation get established, than it too becomes conservative, and strives to perpetuate its like in those proceeding from its possessor. Doubtless myriads of variations cease with the respective individuals personally exhibiting them, in consequence of these individuals dying without issue. And besides this, the influence of many of the personal variations only very slightly affects the progeny, and unless the latter are for several generations subjected to surroundings similar to those causing the mark in the progenitor, the said mark or variation will very likely fade out of view. Again, where the surroundings scarcely alter in a long series of generations, we may expect but little change in the race there abiding, as in some of the lime-forming animals of the slow-changing depths of the ocean.

Assuming, then, that dissimilar incidences and combinations of surrounding agencies are the causes and origin of all variations, then the question comes to be, "What is the origin of the groups named varieties, species, genera, etc.?" Simply that certain families or groups, through contingent circumstances cease to intercross with other families or groups, and that these isolated, *i.e.*, non-intercrossing, groups being acted on generation after generation, each only by its own assemblage of personal and ancestral agencies, diverge from each other more and more in the course of ages; forming first varieties, then still down the stream of time, as the divergence of the groups widens, the dissimilarities of the groups become great enough to form what naturalists term specific differences, and each group is named a species. In after ages we get to genera, orders, etc. Each species is the exponent-product of all the influences of all the individuals that have contributed to it ancestrally, *plus* the product of those non-ancestral agencies which have affected the individuals existing. The same remarks are of course applicable to varieties, and likewise to individuals.

These comments on the origin of species bring me to the subject of human uniformity, that is, the little difference which exists between the various races of mankind compared with the wider diversities exhibited by the species of the classes below him. Mr. Wallace has ably shown that any variation in man's non-mental endowments would have been less conducive to his safety than those resources which his intellect enables him to provide from the inexhaustible store-house of nature around him. So that ability's arbitrament, whose sway is greatest among men, would give the victory (survivorship) to him who, providing against hunger and cold, could best sling a stone or handle a revolver—not to the giant six cubits high, or with a dozen fingers and as many toes. This intellectual ability Mr. Wallace thinks has operated to retain "man's body generically the same for long periods, while other animals have been undergoing modifications in their whole structure to such an amount as to constitute genera and species" (page 328). Now I think there exists one other cause which has operated very powerfully on man, antagonistically to the formation and conservation of species and genera. It is, that man, more than any other animal, intercrosses with all varieties of his kind, recombining divarications. What is human history but a record of races

invading races, and if they do not extirpate the vanquished, intercrossing with them, especially with their females? No other animal does so to the same extent as man. A very little variation among wild animals will serve to keep them apart, and favour divarication. The dog, indeed, is the companion of Man in his wanderings, but he is not permitted by his master to annihilate the varieties of his race; while the rat, which also, unasked, travels with man, but less under his control, is, like man himself, given to extirpate the weaker varieties of his kind.

In conclusion, I beg to recapitulate the two most important points advanced: 1st, Natural selection, if it mean survival of the fittest, is not the predominant law of organic nature. 2ndly, Variations arise from the ever-varying incidences of surrounding agencies; and species, genera, etc., are formed and fostered by groups being isolated—so isolated that the peculiarities from individual variations are prevented from commingling in one common group by intercrossing. This isolation will be mainly geographical as long as the variations formed are only races, but after the differences have become so great as to form species, then biotic considerations will keep the groups from intercrossing, although they may not be kept geographically apart.

DISCUSSION.

Mr. CHARLESWORTH said that his great difficulty was how to reconcile the theory of evolution or natural selection with the permanence of species. As an example, he instanced the warm-blooded water-animals (*Cetacea*), and the fishes, which differed so much in the structure of the vertebral column—and yet both cetaceans and fishes live under the same conditions.

Mr. WAKE did not see much difficulty in the point raised by Mr. Charlesworth. The existence of animals so different as the cetacea and the fishes under similar conditions, showed only that the mammalian type of the former had become fixed before the cetacea took to their abnormal habitat. Their external form may, however, be supposed to have been affected by the action of "natural selection," assimilating them so far to the fishes. The influence of external conditions does not, however, appear to be sufficient of itself to account universally for the changes of animal structure which that hypothesis is intended to explain.

Dr. CARTER BLAKE thought that the reason might be that the fishes passed through lower grades of development than the cetacea, and that the greater amount of ossification of the plano-concave vertebræ in cetacea than in fishes, related to a transference of phosphate of lime in place of the primitive cartilaginous notochord of the earlier vertebrata. But the fossil crocodile called *Streptospondylus*, from the Wealden, exhibited vertebræ, in which the ball was in front and the cup behind. In ordinary crocodiles the cup was in front and the ball behind, thus differing from the type in the exceptional genus above mentioned. Now, *Streptospondylus* and the other crocodiles had probably the same habitat and mode of life, and on the theory of natural selection Dr. Carter Blake could not see a *vera causa* for the existence of the aberrant form.

JANUARY 3RD, 1871.

DR. CHARNOCK, VICE-PRESIDENT, IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

Captain C. C. POOLE, Assist.-Com., Myansang, Pegu, was elected a Fellow; and Professor CAV. LUIGI CALORI, of Bologna, Italy, was elected a Corresponding Member.

The following donations were announced, and the thanks of the meeting voted to the donors:

FOR THE LIBRARY.

From the Hon. E. G. SQUIER—Historical Notes on the employment of Negroes in the American Army of the Revolution. By Geo. H. Moore.

From the EDITOR—The Food Journal. January, 1871.

From the ACADEMY—Jaarboek van de Koninklijke Akademie van Wetenschappen gevestigd te Amsterdam, voor 1868.

From the ACADEMY—Verslagen en Mededeelingen der Kon. Akad. van Wetenschappen: Afdeling Natuurkunde. Tweede reeks; derde deel.

From the ACADEMY—Processan-verbaal van de Gewoone Vergaderingen. 1869-70.

From the SOCIETY—Mittheilungen der Anthropologischen Gesellschaft in Wien, No. 5.

From the EDITOR—Nature; to date.

Mr. J. WILKINSON exhibited skulls and weapons, and other works of art, found in an Anglo-Saxon cemetery near Barrington, in Cambridge-shire.

The following paper was read by the author:

III.—*On the MANX of the ISLE OF MAN.* By RICHARD KING, Esq.,
M.D., F.A.S.L.

THE MANX were originally a race of fishermen and smugglers, and they are still to be considered a race of fishermen.

Owing to want of records it is very difficult to procure any written information concerning the original inhabitants. The ancient history of the Isle is involved in impenetrable obscurity, and so mixed up with fiction, that it is impossible to separate the real from the imaginary.

Ethnologists and historians have conjectured, and I believe correctly, that the first possessors of the isle were Celts of the Gaelic branch. Dr. Robert Gordon Latham is of that opinion. He says that in Ireland, in the Highlands of Scotland, and in the Isle of Man, we have Celts of the Gaelic, in Wales and Brittany, Celts of the British branch.

The Manx are tall, robust, frank, hospitable, and, in common with all the Celtic races, excessively superstitious. But few of the Manx have attained any distinguished literary, scientific, or political eminence; but we must not forget that the Isle produced the late Professor Edward Forbes, one of the greatest naturalists who ever brought his knowledge of the living world to elucidate the physical and organic

changes in the past history of the earth. I much doubt, however, if he was pure Manx.

The Manx, as I have stated, are said to be tall ; but what do you call tall ? I have taken steps to that end. The Esquimaux were considered to be a dwarfish race until, by a series of measurements, I proved them to be a taller race than the English, the English averaging for the man five feet six inches, and for the woman five feet two inches. The standard of the French is below that of the Belgians, and the Esquimaux is above it. This uncertainty of stature will soon be remedied, as, through the Duke of Argyll, instructions have been sent out to all our colonies throughout the world, to obtain height, and proportion upon a given standard of measurement of all the uncivilised races in the world, as far as they can be obtained.

The pure Manx population has not been ascertained, and I have called the attention of the Registrar-General to this end in taking the next census. The entire population of the island was in

1726	...	...	14,066	1831	...	...	41,758
1757	...	...	19,144	1841	...	...	47,986
1784	...	...	24,924	1851	...	...	52,387
1821	...	...	40,080	1861	...	...	52,252

This table shows that the Isle of Man has undergone great changes in population, attributable to conquest, immigration, and emigration with which the historian has to deal.

Etymologists are at variance respecting the derivation of the name of the island. Some seek its root in the Celtic, others in the Saxon, and others again in the Erse or Scandinavian languages. At various times, and by various authors, the island has been christened *Mona*. In Welsh it is *Monaw*, in Saxon *Mannie*, in Irish *Manand*, in Scandinavian *Mon*, and in Manx *Mannin*. All these forms may be referred to the Sanscrit root, *Mān*.*

The language of the Isle of Man is one of the six Celtic dialects which philologists have shown to belong to the class of Indo-European languages, and which are divided into high and low ; the high being the Welsh, Cornish, and Armorican ; the low being the Erse division, or the Gaelic, Irish, and Manx. As a spoken language Manx is not unlikely to die out in another generation, being rarely used in conversation except amongst the peasantry. In most of the parish churches twenty-five years ago it was used on three Sundays out of four, but it is now entirely discontinued. But while the Manx are fast losing their language, they unquestionably preserve their individuality as a primitive race.

The native literature consists of a grand historical ballad of the beginning of the sixteenth century, the ballads of Illiam Dhune, of Molley Charane, of Thirree fo Snaightly, and ballads on sacred subjects, called Carols or Carvals ; political and satirical poems and songs, with translations of various works. A Grammar and a Dictionary were composed nearly a century ago by the Rev. Dr. Kelly. Kelly's dictionary was reprinted for the Manx Society in 1866, under the

* Nelson's Pictorial Guide to the Isle of Man, p. 8.

editorship of the Rev. W. Gill and the Rev. J. T. Clarke. Mr. Quaritch, of Piccadilly, has just produced a reprint of the *Grammar* of that language, which he has been kind enough to present to our library.

The currency of the Isle of Man is now assimilated to that of England. The copper coinage has impressed on the reverse the arms of the island—three armed legs and the motto, *Quocunque jeceris stabit*—Wherever you throw it, it will stand. This device, which was the ancient symbol of Trinacria or Sicily, according to some authorities, was introduced into the Isle of Man by the Normans; according to others it was introduced by Alexander the Third, King of Scotland.*

DISCUSSION.

The CHAIRMAN said that Dr. King was no doubt right in stating that the Keltic element in the Isle of Man was Gaelic, not Kymric. The language of the people was Gaelic. There seemed to be both a Scandinavian and a Saxon element. The name *Tinwald* was derived from the Icelandic, viz.: from *tinga*, "to speak," *valld*, "a hill." The *Tiuwald* is a hill where the people formerly assembled to speak; a division was called a *sheading*, from the Saxon *sceadan* (Ger. *scheiden*), "to divide;" and a judge was called a *deemster*.

The author of the paper traced the name of the Isle of Man to the Sanskrit *mān*, but he did not give the meaning of the Sanskrit word. He (the chairman) thought the derivation rather far-fetched, and he did not think there was any Sanskrit name in Europe nearer than Mount Hæmus. The Sanskrit word *mān* had many meanings. As a verb it signified to adore; as a noun, self-confidence, pride, arrogance, a measuring; and *man* is to think, and mind. A better derivation of the name "*Man*" might be found in the Celtic. Dr. Owen Pughe gave as one of the meanings of *mon*, "an isolated one." He says "the Welsh call the Isle of Anglesea, '*Mon*,' and in order to distinguish it from *Mon Aw*, the Mon of the water or the Isle of Man, it is sometimes called *Mon Fynnydd* or Mon of the Mountains." Hence the *Monapia* of Pliny; the *Monæda* of Ptolemy; the *Menavia* of Orosius and Bede. Cæsar called it *Mona*; but when Tacitus mentions *Mona*, he refers to Anglesea, not to the Isle of Man.

The following paper was then read:—

IV.—On the ANTHROPOLOGY of LANCASHIRE. By JOHN BEDDOE, Esq., M.D., Pres. A.S.L.

LANCASHIRE falls naturally into three or four divisions. Of these the first and most important is the country between the Ribble and Mersey, closely connected with Cheshire geographically and historically. The second is Furness or North Lonsdale, as for some purposes it is very incorrectly styled, which is geographically a part of Cumberland. The third and fourth are South Lonsdale and Amounderness, of which the former naturally connects itself with Westmorland, to which the

* Nelson's Pictorial Guide to the Isle of Man.

upper course of the river Lune belongs; while the latter is a plain country, which forms a transition to the first division.

The prehistoric antiquities of Lancashire are rather scanty, and present, I believe, no peculiarities; nor, have they yielded much evidence as to the physical characteristics of the primeval inhabitants. The early and mediæval history of north-western England is remarkably barren as compared with that of the north-eastern district, in spite of the inquiries and lucubrations of Whitaker. There can be little doubt that from the destruction of the British kingdom of Cumbria, down to a recent period, the greater part of it, the plain about Carlisle excepted, was very thinly peopled. The small number of parishes in Lancashire and Westmorland affords strong testimony of the fact, as does the comparative absence of such noble minsters, abbeys, and castles as abound in Yorkshire.

It has been supposed that the Teutonic character of the inhabitants of South Lancashire, or at least of Salford hundred, may date from the occupation of Manchester, during the Roman period, by a cohort of Frisians. Possibly the blood of the Keltic Britons, here as elsewhere, may have been somewhat affected by colonisation of this kind under Roman auspices. But it seems much more probable that the southern part of Lancashire was not really Saxonised until the reign of Ethelfrith of Northumbria, whom we know to have made great conquests in this direction, and who is said by Bede to have extirpated the British inhabitants of extensive districts, and filled their places with Englishmen. Vacant spaces were also gradually occupied, I believe, by the immigration of Mercians from beyond the Mersey. But the northern portions of the country remained British much longer. The fate of Furness probably resembled that of the neighbouring district of Cartmel, whose population was British in the days of King Egfrith, who, as is well known, included in the same grant the lands of Cartmel and the Britons thereon. Lonsdale also was probably in the main British at that period. The occasional revolts of these Britons, and their chastisement by the kings of Northumbria, and by the successors of Egbert, may have rendered the population exceedingly scanty, and thus prepared the way for the remarkable ethnic change of the tenth century, when the Teutonic element, already present, became preponderant, through the settlement of large numbers of Norsemen.

Certain Scandinavians found their way also into South Lancashire, whether by extension of their colony in Wirrall, across the Mersey,* or in connexion with the general settlement of the Danelagh. Thus, a few local Danish names are found, such as Formby and Ormskirk; and in Domesday-book certain Drengs appear as holding lands at Warrington, drengage being a Scandinavian tenure, and the word *dreng* being still in use in Norway, where it is applied to a farm-servant. But the settlement of Furness and of Lonsdale must have been of a piece with that of Cumberland; and I think Ferguson's view of this

* There is a Thingwall in West Derby hundred, as well as Thingwall in Wirrall, each of which may be taken to indicate the existence at one time of an organised Scandinavian community.

is most probable, *i.e.*, that the Norwegians of the Isle of Man, finding Cumbria, from Annandale to Lonsdale inclusive, and from Stainmoor to the sea, half-desert, and open to colonisation, spread over it gradually and more or less peaceably, leaving the less fertile Isle of Man in great part to its original inhabitants, the Kelts, whose physical type continues to predominate there. The Danes of Dublin may also have taken part in this colonisation, at periods such as that of the battle of Clontarf, when Ireland was less open to them than usual.

The local names in Furness, and to some extent in South Lonsdale, corroborate this theory; and the same may be said of the Lonsdale dialect, which has been investigated by Peacock and Atkinson. The Scandinavian element appears to be the strongest, the Saxon or Angle is in some force, as is also the Keltic, which, however, seems to have been partly Gaelic, and not wholly Kymric, as might perhaps have been expected.* On the theory already stated, however, the presence of Gaelic words may be accounted for without any difficulty. Even if we suppose the original Cumbrians to have been purely Kymric, the Norwegian settlers may be well believed to have brought with them a certain proportion of Gaelic thralls from Man, or even from Ireland. In connexion with this point may be mentioned the remains, at the point of Heysham on Morecombe Bay, near Lancaster, or what appears to be the remains of an oratory and burial-place, of early Irish character, indicating probably the site of a settlement of Irish monks, who may have come with the intention of preaching Christianity to the pagan Angles or Norsemen of the district.

The effect of the Norman conquest on the ethnic elements in Lancashire would probably be inconsiderable; though there, as elsewhere, the Anglo-Danish or Anglo-Norse aristocracy may have been somewhat more diminished, by slaughter and emigration, than the commonality, whose blood may have had a larger admixture of the Keltic element.

Since that time no ethnological change worthy of mention has occurred in the northern part of the country. The physical type in that quarter is accordingly pretty distinct. The Norwegian element prevails in it over the Kymro-British; the Anglian is weak, the Gaelic doubtful. As in Cumberland and Westmorland, the stature is tall, averaging probably nearly five feet nine inches; the eyes are usually blue or light grey, the hair of a lightish brown, often inclining to yellow: the combination of hazel eyes with rather light hair is not uncommon. The spade form of face, with cheek-bones rather broad but not prominent, tapering with a regular curve towards the chin, is very prevalent, as it is in Scandinavia. Among three hundred persons, I found six per cent with red hair, twenty-two fair, forty-seven brown, twenty-two dark, and five black; sixty-four had light, thirteen neutral, and twenty-two dark eyes.

The modern history of the southern part of the county has been very diverse from that of the northern. The immense development of the cotton trade has affected the physical and moral character of the population in various ways. The ethnological character of the people

* Peacock and Atkinson.

has been very much obscured by the immigration which has taken place from all parts of Ireland, England, Scotland, and Wales, and even from foreign countries. This has been accompanied, however, by a rather rapid multiplication of the native breed, which still retains the preponderance in many parts of South Lancashire, as may be shown by an examination of the family-names; but which, under the influence of altered conditions of life, has deteriorated much in stature, bulk, and constitutional vigour. Proof of this may be derived from the observations of Thackeray on the growth of factory children and of those otherwise employed, and from the measurements made for me on Yorkshire and Lancashire weavers, by Dr. Ingham of Haworth, and published in vol. iii of the *Memoirs* of the Anthropological Society; also from the low average of stature in Lancashire recruits, and the great number of rejections of recruits for physical defects.

Whether any other change has taken place in the native breed—whether, for example, the operation of natural selection, under a rather sudden change of several of the external circumstances of life, may be altering the skull-form or darkening the hair and irides, is a subject well worthy of investigation by local anthropologists.

The type originally prevalent in South Lancashire, however, is still sufficiently numerous, even in the streets of Manchester and other large towns, to be pretty easily recognised. The men belonging to it are usually of middle stature and strong build, with a tendency to squareness in face and head, the complexion and hair usually rather light, but the eyes almost as often brown or neutral as blue or light grey. I tabulated the colours met with in four hundred and seventy-five persons, of the lower class, observed in the streets of Manchester, excluding Irishmen and foreigners as well as I could. The percentages yielded were:—Red hair, six; fair, sixteen and a half; brown, thirty-nine; dark, thirty-three; black, five;—and of eyes, light, fifty-three; neutral, fifteen; dark, thirty-one.

The CHAIRMAN said, that with regard to the Gaelic element in Lancashire, all the river-names, except the Mersey, are of Keltic origin. The names of some of the towns were Keltic; thus Liverpool was *wholly*, and Everton, Manchester, and Lancaster *partly*, Keltic. The author of the paper seemed to be of opinion that Norwegian settlers in Lancashire might have brought with them some Gaelic thralls from the Isle of Man, or even from Ireland; but there could be no doubt that the earliest Keltic inhabitants of Great Britain were the Galli (at all events the Gaelic was the more ancient of the two principal dialects), and there was no reason why the Galli should not have settled in Lancashire. At all events two of the river-names (*Douglas* and *Alt*) were pure Gaelic.

The discussion upon the two papers read at this Meeting was also sustained by Mr. Quaritch, Mr. David Forbes, Mr. Wake, and Mr. Lewis.

The Auditors of the accounts for 1870 were announced, viz., on behalf of the Council, Mr. F. G. H. Price; on behalf of the Society, Mr. Joseph Kaines.

ANNUAL GENERAL MEETING.

DR. BEDDOE, PRESIDENT, IN THE CHAIR.

JANUARY 17TH, 1871.

THE minutes of the last annual meeting were read and confirmed.

The Treasurer read the Report of the Auditors on the financial state of the Society, and on the motion of Dr. GEORGE HARCOURT, seconded by Mr. JOHN STIRLING, the Report was unanimously adopted.

The Director then read the Report of Council for 1870, as follows :—

Report of the Council of the Anthropological Society of London, for 1870.

Introduction.—At the close of the ninth year of the existence of a Scientific Society, it cannot be expected that the Annual Report of its Council will contain much of great moment besides the record of the work which has been done during the year. This is true, more especially of a Society such as this, which inaugurated a new era in scientific progress, and which consequently was destined to meet with both opposition and opprobrium during the earlier years of its existence. If the Anthropological Society of London had done nothing else, the fact of its having outlived such opposition and established itself as the organised exponent of a recognised science of mankind, is a positive proof of success having attended its labours.

1. *Meetings.*—During the past year, sixteen meetings of the Society have been held. As a rule, these have been very well attended; but it is to be regretted that, owing to the meetings of other Societies being held on the same evening, members who would like to have been present were often prevented.

2. *Papers.*—The following papers have been read before the Society during the past year.

- On the Psychical Elements of Religion. By L. Owen Pike, Esq.
- The Negro Slaves in Turkey. By Major Frederick Millingen, F.R.G.S.
- Aborigines of the Chatham Islands. By Dr. Barnard Davis and Mr. A. E. Welch.
- Notes on an Inscribed Rock in Venezuela. By Mr. Ralph Tate.
- Polygamy: its Influence in determining the Sex of our Race, and its effect on the Growth of Population. By Dr. James Campbell, M.D.
- The Circassian Slaves and the Sultan's Harem. By Major Frederick Millingen, F.R.G.S.
- On the Strange Peculiarities observed by a Religious Sect of Muscovites called Sceptsi. By Dr. Isidore Kopernick, and Dr. J. Barnard Davis, F.R.S.
- On Phallic Worship. By Mr. Hodder M. Westropp.
- On the Influence of the Phallic Idea in the Religions of Antiquity. By Mr. C. Staniland Wake.
- On Mr. Darwin's Hypothesis of Pangenesis as applied to the Faculty of Memory. By Mr. Alfred Sanders.
- The Aboriginal Tribes of the Nilgiri Hills. By Major W. Ross King, F.R.G.S.
- Race in Music. By Mr. Henry F. Chorley.
- The Armenians of Southern India. By Dr. John Shortt.
- The Races of Morocco. By Mr. John Stirling, M.A.
- Paucity of Aboriginal Monuments in Canada. By Sir Duncan Gibb, Bart., M.D.

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDING DECEMBER 31st, 1870.				Ck.	
				£ s. d.	£ s. d.
To Balance, Jan'y. 1, 1870, brought forward				126 19 9	
To Subscriptions received, 1870:					352 10 0
Annual ... { Secretary £327 12 0					
Collector 220 10 0				581 14 0	
Bank 33 12 0				41 5 7	
Life Compositions 41 5 7					
To Subscriptions on account of arrears:					
1867 £ 9 12 0				80 18 0	
1868 14 12 0				56 14 0	
1869 56 14 0				8 8 0	
To Subscriptions in advance for 1871				712 5 7	
To Sales of Publications:					
Broca..... 20 16 1					
Waitz..... 1 0 5					
Pouchet..... 3 2 5				11 4 3	
Vogt 4 1 7					
Blumenbach 0 10 2					
Gastaldi .. 1 13 7				32 10 6	
Memoirs, volume iii					
To Office Sales:					
Books £11 17 0				12 7 6	
Miscellaneous 0 10 6				56 2 3	
By payments on account of printer:					
Anthropological Review and Journal, 1868, 352 10 0					
By payments on account of Journal of An-					
thropology:					
Lithography, Bovell				8 8 0	
Postages to editors				2 10 0	
Translator, assist.				5 0 0	
By repayment of loan—balance:					
Rev. D. I. Heath				25 0 0	
By rent, office expenses, etc.:					
Rent, three quarters				37 10 0	
Office expenses, sundries				5 18 10	
Postages: General				£19 18 1	
Journal				37 16 1	
Stationery, Warrington and Co.				10 18 8	
House and miscellaneous accounts				48 4 8	
London Library subscription				3 0 0	
Special Meeting expenses				5 5 0	
By salaries, commissions, etc.:					
Secretary				100 0 0	
Wages				39 15 0	
Commissions: Collector				£16 14 2	
Bank				0 7 4	
By advertisements:					
General account				14 17 6	
Journal account				2 5 6	
By balances:					
In bank				90 14 5	
In hand				8 14 4	
Total				£895 7 7	

Audited and found correct, this 14th day of January,
1871.

F. G. H. PRIOR, } Auditors.
J. MATTHEW.

The Irish Celt. By Dr. Henry Hudson.
 Race Elements of the Irish People. By Mr. Kinahan.
 The Kelt of Ireland. By Dr. John Beddoe.
 The People of Marken. By Dr. R. S. Charnock, F.S.A.
 On some Indian Remains from Venezuela. By Mr. A. Ernst, Local Sec. A.S.L.

Observations on the Condition of the Blood Corpuscles in Certain Races. By Dr. R. H. Bakewell.

Suggestions and Reflections respecting the peoples inhabiting the British Isles. By Mr. A. L. Lewis.

Archaic Structures in Cornwall and Devon. By Mr. A. L. Lewis.

Some Objections to the Theory of Natural Selection, as explained by Mr. A. R. Wallace. By Dr. Henry Muirhead.

3. *Fellows*.—The present number of Ordinary Fellows of the Society (exclusive of those whose subscriptions have been in arrear since 1867, but who have not resigned) is 480. During the past year six ordinary fellows have died, and twenty-two resignations have been received. Many of these resignations have been unavoidable, and the Council would point out that every Society must look for the loss of a certain number of its fellows each year from pecuniary and other circumstances, and that the only way to keep up the numbers of a Society is for new fellows to be introduced. During the past year twenty-five new fellows have been elected.

Corresponding Member.—The following Corresponding Member has been elected :

Dr. D. Luboch, of Kaarpen, Holland.

Local Secretaries.—The following gentlemen have been added to the list of Local Secretaries associated with the Society :

Dr. Daniel Earl Burdett, Ontario; Dr. H. Russell, for Wilmington, Delaware; Frank Wilson, for St. Paulo de Loanda, Africa; the Rev. W. W. La Barte, for Brighton.

4. *Library*.—Valuable contributions have been received during the past year from the following persons and public bodies :

Joseph Kaines, Esq.; A. Ramsay, Esq.; Dr. E. T. Ryan Tenison; Lawson Tait, Esq.; Lieut. S. P. Oliver; Dr. G. Gerland; G. Harris, Esq., F.S.A.; Prof. Virchow; M. E. Alglave; Dr. Nicolucci; Prof. Steenstrup; C. Hamilton, Esq.; F. G. H. Price, Esq.; Dr. Kopernicky; MM. Trutat et Cartailhac; Rev. Scott F. Surtees; Dr. Pruner Bey; T. Bendyshe, Esq.; J. F. Collingwood, Esq.; E. Lartet, Esq.; E. R. Lankester, Esq.; Prof. R. Owen, F.R.S.; Dr. A. Garbiglielli; Dr. E. T. Hamy; Dr. Thurnam; Dr. B. Seeman; E. T. Stevens, Esq.; Dr. A. Weisbach; Dr. Donovan; A. Bastian, Esq.; Dr. Charnock; N. Trübner, Esq.; Prof. Ecker; Dr. Thomas Inman; Dr. J. C. Murray; M. S. Pellegrini; Hon. E. G. Squier; Royal Academy of Science, Amsterdam; Bengal Asiatic Society; Royal Society; Royal Geographical Society; Society of Antiquaries; Royal Society of Literature; Ethnological Society of London; Royal United Service Institution; Imperial Academy, St. Petersburg; the Essex Institute, U.S.; Boston Society of Natural History, U.S.; Smithsonian Institute; Imperial Society of Moscow; Vienna Imperial Academy of Science; the India Office; Geological Society, Glasgow; East Indian Association; American Antiquarian Society; Social Science Association; Anthropological Society of Paris; Royal Institution, Palermo; the Government of New Zealand.

Museum.—Additions to the Society's Museum have been made by the following gentlemen :

R. B. N. Walker, Esq.; Dr. Delgado Jugo; A. L. Lewis, Esq.; Rev. J. G. Wood.

The Society's collection of crania now consists of 200 typical specimens, and the Council look forward to the time when anthropological literature will be enriched by the publication of an illustrated catalogue of the collection.

Skulls.—Among the presents received may be noticed particularly,

Two Australian skulls, presented by Mr. A. L. Lewis; two ditto, by Dr. Robet; one Kaffir skull, by Lieut.-Col. Ross King.

6. *Publications.*—The Council congratulate the Society on the issue to the fellows, during the past year, of Vol. iii of the *Memoirs* of the Society. Nos. 28 and 29 of the *Anthropological Review* having been published by the executors of the late Dr. Hunt, the founder of this Society, were also issued to the fellows. The Council thinking it undesirable that the publication of a journal treating especially of the science of mankind should cease, determined to bring out a periodical to take the place of the *Anthropological Review*. The first number of the *Journal of Anthropology*, under the editorship of the President of the Society, Dr. Beddoe; Dr. J. Barnard Davis; Dr. Beigel; the Rev. Dunbar Heath; and Mr. C. Staniland Wake, was accordingly issued to the fellows of the Society in July last, and its publication has been continued quarterly since that date. The Council trust that the establishment of this journal has met with the approval of the fellows. They believe that the *Anthropological Review* had considerable influence among scientific men, both at home and abroad; and they trust that the *Journal of Anthropology* will be equally valued. It is hoped that this publication will become a leading organ on questions of sociology. It should be mentioned that many papers read before the Society which would formerly have been reserved for publication in the *Memoirs* have been inserted in the *Journal of Anthropology*. A pecuniary saving has been effected by its publication as compared with the cost of the copies of the *Anthropological Review* formerly sent to the fellows.

The want of a volume of instructions for the use of Local Secretaries has been so much felt that the publication, during the present year, of an edited translation of the *Instructions* of Dr. Broca, issued by the Paris Anthropological Society, has been determined on by the Council. This work will be generally interesting, and will do much to render popular the study of Anthropology. It may be expected, moreover, to lead to very valuable results in the collection of anthropological data, by the Local Secretaries of the Society abroad, who are anxiously looking for its appearance.

7. *Exchange of Publications.*—The Council have to announce that the publications of the Society are exchanged with those of the following Societies:

Anthropological Societies of Berlin, Vienna, New York.

8. *British Association.*—The result of the meeting of the British Association for the Advancement of Science, held at Liverpool during the past year, so far as it concerns Anthropology, was communicated

to the fellows at a meeting held on the 1st of November last. The Report of the Society's Delegates is published with the proceedings of the Society which appear in the January number of the *Journal of Anthropology*. The Council congratulate the fellows on the permanent recognition of their special science, implied in the election of the President of the Society, Dr. Beddoe, as a member of the Council of the Association, inadequate as such recognition still is. They trust, however, that the day is not far distant when a separate section for the science of mankind will be formed in connection with the British Association.

9. *Prehistoric Archaeology*.—Owing to the war between France and Germany, the Antwerp meeting of the *Congrès International pour le progrès des Sciences Géographiques, &c.*, and the International Congress of Anthropology and Prehistoric Archaeology, which was to have been held this year at Bologna, were postponed. The report of Mr. Carmichael, the delegate of this Society, to the Bologna Congress, has already been presented to the Society, and it is published with the proceedings of the Society which appear in the January number of the *Journal of Anthropology*.

10. *Financial Position*.—The Council are sorry to say that the debt of the Society has not been reduced during the past year. Two reasons have contributed to this result, these being the publication of the third volume of the *Memoirs*, which cost a large sum, and the non-payment of subscriptions. It is the opinion of the Council that a determined effort should be made in the course of the present year to considerably reduce the debt. If £500 could be discharged during that period, the usefulness of the Society would be very greatly increased, and this might probably be effected by setting apart the whole of the arrears as and when received, with a certain proportion of the income for the year, and by sale of a portion of the stock of works published by the Society, if this can be effected without much sacrifice. If this plan cannot be carried out, it should at least be determined that the debt should be paid off within not more than three years from this date, for which purpose, if necessary, a sinking fund might be formed. The financial position of the Society is, however, perfectly sound, as the whole debt is not more than one year's income, and it is amply covered by the assets of the Society. The Council trust that those fellows whose subscriptions are in arrear will pay them up forthwith, and thus enable the debt to be got rid of at an early date. This alone hinders the Society from carrying out fully its original programme by the publication of translations of various works of great scientific value.

11. *House Accommodation*.—The rooms at present tenanted by the Society, may at any time have to be vacated on short notice, and the attention of the Council has been turned to the question of obtaining fresh accommodation. Nothing definite has, however, been done in the matter, as certain schemes originated by the Statistical Society for the bringing of many of the scientific bodies of the metropolis together under one roof is still under consideration by a committee of delegates.

12. *Amalgamation.*—The question of Amalgamation between the Society and the Ethnological Society has again been brought before the Council; and, to show their willingness to entertain any proposals which may be made for carrying out that object on equitable terms and without injury to the interests of Anthropology, they have passed a resolution that three delegates shall be appointed to act with the President of the Ethnological Society, who has received full power for the purpose, from a Special Meeting of that Society, in bringing about Amalgamation.

13. *Conclusion.*—In conclusion the Council, while congratulating the fellows on the position of the Society and the work it has already done, urgently call on them to increase its value, not only by bringing fresh fellows to the Society, but also by contributing papers for discussion. Many important anthropological questions as yet remain almost untouched. The Council would also call the attention of fellows to the desirability of as many of them as are qualified under Section 2 of the amended rules relating to the constitution of the General Committee of the British Association becoming enrolled as permanent members of that committee. It is to be hoped that at the next Meeting of the Association, although the number of delegates it can appoint is now less than formerly, this Society will be well represented, both by the attendance of fellows and the contribution of papers to the Anthropological Section or Department.

The President here appointed as Scrutineers of the ballot, Dr. Maunsell, and Mr. J. W. Jackson.

Sir DUNCAN GIBB moved, and Mr. BENDIR seconded the adoption of the Report of Council. After some remarks from Mr. Hyde Clarke, Colonel Lane Fox, Dr. Richard King, and Mr. Dendy, the motion was put and carried *nem. con.*

On the motion of Mr. KAINES, a vote of thanks was passed to the Editors of the *Journal*.

Mr. JOSEPH KAINES moved, and Dr. RICHARD KING seconded the following resolution—

“That the President for the time being, Mr. Staniland Wake, Rev. Dunbar I. Heath, and Mr. E. W. Brabrook, be delegates to act with Professor Huxley for the Amalgamation of the Anthropological and Ethnological Societies, with the same powers from this Society as Professor Huxley has from his.” Carried unanimously.

The President then read the Annual Address.

ANNIVERSARY ADDRESS. By J. BEDDOE, Esq., M.D., PRESIDENT.

The Report of the Council, to which you have been listening, has given you an epitome of the history of the Society's year, to which I have no important additions to make. We have lost, I regret to say, several attached members by death, and according to the doctrine of chances this must annually be the case in a Society so numerous as ours. It is more pleasant to dwell on the many interesting evenings on which the Society has met, on the numerous and often valuable papers that have been read to us, and on the general approbation which I believe we may fairly claim to have been bestowed on the

third volume of our *Memoirs*, and on the new *Journal of Anthropology*, of which the third number is now in your hands.

The meeting of the British Association at Liverpool, and its proceedings in section D, are also to be recorded with satisfaction; inasmuch as at Liverpool the wishes of the Anthropologists and Ethnologists were met in a conciliatory spirit, and, I may say, with a cordiality which had not been displayed at Exeter. Under the accomplished presidency of a gentleman who is among the most distinguished fellows of the Anthropological and Ethnological Societies, a separate department was conducted for the discussion of subjects within our limits; and the result was so universally satisfactory that great hopes are entertained that Anthropology will never again have occasion to complain of neglect at the hands of the Council of the Association. And such was the concord within the department, that I felt disposed to say, "O si sic omnia!" and to wish that I could see the members of the two Societies working together in this room also, with equal smoothness and harmony, under the same able and courteous presidency.

I was one of those who, on the decease of Mr. Crawford, urged the consideration of this question of amalgamation on the leaders of both Societies; I regretted what I considered the uncalled-for withdrawal of the Ethnological delegates from the negotiation; and I have ever since continued desirous of union on such terms as should recognise the objects for which this Society was founded, and yield full scope to its action. In this connection I would draw your attention to the most important event which has occurred, since the Ethnological Society of New York dissolved itself, to rise again, phoenix-like, as an Anthropological Society, in the history of fraternities founded for the cultivation of natural science. Nine months ago was founded the great German Society, the first of whose rules contains the following words:—"The German Society for Anthropology, Ethnology, and Prehistoric Archæology (*Urgeschichte*), which when briefly mentioned (*in kürzeren Anführungen*), shall bear the designation of the German Anthropological Society." There is no need to trace out the bearing of this regulation upon questions of nomenclature nearer home.

As the all-important bearings of our science become more generally recognised, not only does its cultivation become more popular and more widely diffused, but in various directions its progress becomes more and more perceptible. The central problems of Anthropology still defy our efforts and escape our ken, as some of them may for ever continue to do: but in many directions openings are shewing themselves, glimmerings of light through the dense forest of difficulty and doubt, which may ultimately lead us near to some of them. And in every department, it cannot be too often repeated, there is plenty of work to be done, work too, in many instances, that lies close to our hands; work for the traveller and the student, for the observer and the thinker, for the highway and the closet. Let us take for example a sub-division that has attracted a disproportionate number of able workers. Even first principles in craniology are far from being settled, after all the labour of Lucae, Vogt and Welcker, Davis and Thurnam, Rutimeyer and His, Retzius, Von Baer, Broca and Pruner

Bey. The very first hint of the possibility of racial differences in the blood-disks was, so far as I am aware, given in a paper read before this Society a few weeks ago.

Other departments there are which shew less promise of immediate result, and which will require lapse of time for their complete development; but whose extent and bearings are daily more clearly visible, and which are always attracting fresh labour. Such are the questions respecting the acclimatisation of man, his degeneration under various influences, and, in short, the agency of media generally upon him. The connection of such subjects with the interests of daily life is becoming more distinct, even in the eyes of the Philistines who call themselves "practical men."

The history of the importation of Ethnology into politics is curious. Sneered at by statesmen and journalists, the doctrine of nationalities has gradually forced itself on their attention and respect as a potent disturbing force for good or evil in all the problems of European politics. Who cared, fifty years ago, whether the peasantry of Galicia were Russniaks or Poles, whether the Transylvanian Saxons or the Wallachs were multiplying or decreasing, or whether the Danish people did really extend to the Eyder? Who out of Germany cared, till the other day, what language was spoken in such and such a canton or parish of Lorraine or Luxemburg? Such things used to be discussed only by little coteries of Ethnologists; but now they demand and receive the attention of statesmen and rulers, of the arbiters of Europe. It has even dawned at length on the minds of our fellow countrymen that Irishmen "are not undeveloped" Anglo-Saxons, "but diverse;" and that though it may be possible to make them good citizens of another pattern, to make them Englishmen transcends our power.

There are still some who affect to make light of the doctrine of nationalities, and especially of its connection with present or possible political boundaries; but it is not sufficient to shew that in many instances, as for example, that of Flanders and Holland, almost complete community of blood is not accompanied by community of feeling. The fact that the quarrels of brethren are apt to be most deep and irreconcilable does not disprove the existence, as a general thing, of brotherly attachment and sympathy; but it is true that nearness of kindred, likeness of blood, is only one of several elements to be taken into account in studying the origin and import, in each several case, of the idea of nationality. Blood may rule the physique, but climate and other media, and linguistic, political and religious history all act, of course, upon the character and sympathies of a people; and as personal identity has been affirmed to consist in the consciousness of personal identity, so it might be argued, not without some appearance of plausibility, that national identity consisted merely in the consciousness of national identity. Nevertheless, blood does usually assert itself in greater or less degree, and questions of race and descent are therefore well worthy the attention of political students. The Alsatian, though he may insist on being considered, called, and treated as a Frenchman, not only speaks and looks, but

works, thinks and behaves like a German. The Irish and the French have had no common history since history began ; their climate, their languages, their fortunes and misfortunes have been diverse ; but we have reason to believe that there is a strong, perhaps prevailing race-element common to the two, not so potent, it may be, in Wexford as in Westmeath, or in Normandy as in Berry, but still almost everywhere present. And, accordingly, who is there among us, who has not been struck with the many Irish traits of character and behaviour that have come out among the French during the searching trials of the present war ?

It is now my duty to resign this chair, which I have occupied by your favour for two years, to a gentleman who has well deserved his election by his long continued, constant and valuable services to the Society. He has not the disadvantages, which, in spite of your indulgence, I have been keenly sensible of, of living so far from town as to be unable regularly or usually to occupy the chair ; and indeed I owe to him my thanks for having, in his capacity of Vice-President, so frequently supplied my involuntary defections. Thanking you all for your invariable courtesy to me during my years of office, I beg leave to vacate the chair in favour of Dr. Charnock.

Mr. J. GOULD AVERY moved, and SIR DUNCAN GIBB, Bart., seconded, a vote of thanks to the President for his address, which was carried by acclamation.

The PRESIDENT returned thanks.

Thanks were given to the Auditors on the motion of Sir DUNCAN GIBB, Bart., seconded by Captain BEDFORD PIM, R.N.

Mr. KAINES returned thanks.

The Scrutineers then brought up the Report as follows :—" We declare the following gentlemen duly elected to serve on the Council of the Society for 1871, viz.—*President* : Dr. R. S. Charnock, F.S.A. *Vice-Presidents* : Dr. Barnard Davis, F.R.S. ; Walter C. Dendy, Esq. ; Sir Duncan Gibb, Bart. ; George Harris, Esq. ; Richard King, Esq., M.D. ; Captain Bedford Pim, R.N. *Director* : C. Staniland Wake, Esq. *Treasurer* : Rev. Dunbar I. Heath, M.A. *Council* : J. Gould Avery, Esq. ; John Beddoe, Esq., M.D. ; H. Beigel, Esq., M.D. ; S. E. Bouverie-Pusey, Esq. ; E. W. Brabrook, Esq., F.S.A. ; Captain R. F. Burton ; S. E. Collingwood, Esq. ; C. O. Groom-Napier, Esq. ; Consul T. J. Hutchinson ; George Harcourt, Esq., M.D. ; Thomas Inman, Esq., M.D. ; Joseph Kaines, Esq. ; W. B. Kesteven, Esq. ; A. L. Lewis, Esq. ; Major S. R. I. Owen ; F. G. H. Price, Esq. ; Bernard Quaritch, Esq. ; C. Robert Des Ruffières, Esq. ; John Shortt, Esq., M.D. ; E. Villin, Esq.

Thanks having been voted to the retiring President, Vice-Presidents, and Members of Council, and to the Scrutineers, the meeting separated.

JANUARY 31ST, 1871.

DR. CHARNOCK, PRESIDENT, IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

DR. KING JOHN CARR, R.A., of Kurkee, Bombay, was elected a Fellow.

The thanks of the meeting were voted for the following presents:

FOR THE LIBRARY.

From the Society—Journal of the Asiatic Society of Bengal, part i, No. 3; part ii, No. 3. Proceedings, ditto, Nos. 9, 10, 1870.

From the VIENNA ACADEMY—Jahrbuch der Kaiserlich-Königlichen Geologischen Reichsanstalt, 1870, 22 Bd.; Verhandlungen der k. k. Geologischen Reichsanstalt, No. 6, 1870.

From the INSTITUTION—Journal of the Royal United Service Institution, vol. xix, No. 61.

From the AUTHOR—The Woman's Cave, by W. McPherson.

From DR. J. BARNARD DAVIS—Sopra un Cranio Scafoideo, by Professor C. L. Calori.

From PROF. STEENSTREP—Oversigt over det Kongelige Danske Videnskabs Selskabs Forhandlinger. No. 2, 1870.

From the EDITOR—Nature; to date.*

From the AUTHOR—Correspondenz-Blatt der deutschen Gesellschaft für Anthropologie, Ethnologie, und Urgeschichte: by Prof. Semper. Seven numbers,

From the DIRECTORS—Revue des Cours Scientifiques de la France et de l'Étranger, Nos. 34, 35.

From B. QUARITCH, Esq.—Manx Grammar, by Rev. J. Kelly, LL.D.; and a General Catalogue of Books.

The following paper was read by the author:

V.—*On Some of the RACIAL ASPECTS of MUSIC.** By JOSEPH KAINES, Esq., F.A.S.L.

IN an interesting paper recently read before the Anthropological Society of London by Mr. H. F. Chorley, attention was directed to the very various character of the national music of different countries, and the illustrations chosen remarkably confirmed this. Of the topics enlarged upon by the eminent musical critic, none was more striking than the fact that the nations of Europe not only excelled in musical expression all the other peoples of the globe, but their music had racial differences of a strongly-marked character. It was made evident that Asia† had no music worthy of the name, her best melodies being

* Read before the Ethnological and Anthropological Department of Section D of the "British Association for the Advancement of Science" at Liverpool, September 16th, 1870.

† Of the music of Western Asia, Mr. Chorley remarks: "The most ancient service music in existence is that of the synagogue; but as far as I have been able to examine it, or form any conjecture, the result is one of confusion and inconsistency. Many of the Hebrew chants are in the most irregular form of recitative, getting little beyond the wildest of wild cries, which, I have ventured to think, owe their existence to accident. . . . The primitive chant is merely an instinctive device to give vocal declamation, variety, and animation, in delivering the spoken prayer or message, and

monotonous repetitions only of two or three notes. Of African* music little or nothing is known, and what little is known is of a very primitive and barbarous character. The music of the nations of the north-west of Europe was shown to be not only most complex, but pervaded by a settled melancholy. The most popular or national airs were cited in proof of this, and it is not a little remarkable that however joyous most of these airs began, they gradually subsided into a minor key, and produced feelings of unutterable sweetness and sadness.† It is certainly not so with the music of the sunny nations of the south of Europe. How is this? Can it be historically accounted for? Have those of the north had painful experiences to which other nations are strangers? Do they inherit traditions of slavery endured hundreds of generations ago? Racially, have they not fared as well as other sections of the genus *Homo*? Are they more introspective and retrospective? Do they yearn more after what is unattainable? Is the melancholy the product of vague feelings, restlessness, irrational hopings, sorrows suppressed and long endured?

A phenomenon so remarkable in connection with such peoples is surely worthy of the attention of anthropologists. If I attempt an explanation of it, it is with diffidence, as there are many in the Anthropological Society who could do the subject far more justice.

Music is said to be a universal language. Is it so? Has it different dialects? And do the people of one dialect understand (or sympathise with) those who speak another? Does Spanish or Italian music find responsive echoes in the hearts of Germans, Swedes, Norwegians, or Russians, or *vice versa*? Is the music of the Southerner, characterised as it is by gossamer lightness and voluptuousness, agreeable to the ear of a Northerner, whose music is imbued with a pleasing sadness? The difference is so radical as to make one almost think not. How has this difference originated and grown up? Has the admixture

rest to the voice of the priest, as well as the ears of the people."—*Journal of Anthropology*, No. II, p. clx.

* Mr. Winwood Reade, in his *Savage Africa*, says:—"I had the fortune to witness a religious dance in her (Moon's) honour. There were two musicians, one of whom beat an instrument called *handja*, constructed on the principle of an harmonicon, a piece of hard wood being beaten with sticks, and the notes issuing from calabashes of different sizes fastened below. (This instrument is found everywhere in Western Africa.) The other was a drum which stood upon a pedestal, its skin made from an elephant's ear. The dull thud of this drum, beaten with the hands, and the harsh rattle of the *handja*, summoned the dancers. They came singing in procession from the forest. Their dance was uncouth; their song a tuneless chaunt; they revolved in a circle, clasping their hands as we do in prayer, with their eyes fixed always on the moon, and sometimes their arms flung wildly towards her."—*Savage Africa*, 2nd edition, p. 148.

† Dr. Carter Blake, who has done me the honour of perusing this paper, remarks here that, "Minor tunes are easier than tunes in major keys. The cries of children and street cries are proofs." It may be so; but a child does not cry in the minor key because to do so is easier than crying in the major key. Equally with the street crier it knows nothing of either major or minor keys. The child feels pain, and it awakens attention to itself by crying out; the street crier utters his burthen for the same end. The fact of pain or deprivation in both cases is expressed in the only natural way—by the minor key.

of the Celtic or Teutonic elements modified in any way the music of the south of Europe? Do branches of the races of Teutons, Slaves, Celt, and Cymry, which have spread over other parts of the globe, exhibit the same fine peculiarity in their music? If they do not, what has probably extinguished it, or prevented its growth? This is a subject which travellers can throw much light upon.

Why should, of all peoples, German, Swedish, English, and Norwegian music only (or chiefly) be pervaded by this sadness? Is there any physical cause to account for it? or is the reason to be sought in marked psychological differences? And what are those differences?

Hardier nations do not exist. They cannot endure anything that is demonstrative. They hide the most terrible of their emotions; and their ordinary aspect is stern and reserved. Like the Spartan boy, they allow their vitals to be gnawed away rather than exhibit weakness. These nations are in the van of civilisation, and there is no spot under heaven on which they have not sowed its seeds. With a fondness for home amounting to a passion, they have nevertheless wandered in every clime and visited every shore. None meet trouble better or bear it with more fortitude. Calamity does not shake nor difficulties dismay them. Mawkishness is intolerable, and the finest sentiment suspect. They hardly know what tears are, and brush them away on the few occasions they do come, furtively and with shame. Why this settled melancholy in their music? Why are "the sweetest songs those which tell of saddest thought"? Why does the "sweet sad music of humanity" find favour with them? Is the climate an efficient cause?

Do dwellers in the north live under atmospheric and under physical conditions depressing to their spirits? To a certain extent perhaps they do. Perhaps the war they wage with their environment is so incessant as to leave small space for unalloyed hilarity and content. They may have so often, to use Bacon's fine expression, "to conquer nature by obeying her," that they breathe under a load and sing with bated breath. With lowering skies; huge rocks; overawing mountains; steep and dangerous passes and crevasses; floods and fjords threatening certain death; the moaning and hungry ocean; the earth hard, bare, and unfruitful; all these phenomena more or less constantly before them; what wonder if nature wears an awful aspect to them? But climate alone will not account for the existence of the temperament referred to, something must be due to race. How much?

Perhaps some one may say that the nations of the north of Europe are more awestruck than other peoples at the contemplation of Life, Death, God, and Immortality; and that these mysteries possess their whole being, saddening and brightening by turns all their thoughts and impressions. Certainly the rapt attention and morbid analysis they give to such subjects render it very likely. Penetrated by the conviction that the world and man are both under the domain of law; that chance ruled nowhere and necessity everywhere; they would bow the head in silence before the inaccessible and speak in tones of irrepressible sadness of the inexorable. The shadow of fate would haunt

their lives ; darkening their brief periods of leisure ; and cause them to indulge in terrible soul questionings. The very acquisition of the power to modify and make subservient to their ends the laws of nature, brings with it profound respect for the unseen forces which everywhere manifest themselves in the world. Constantly would they be learning the measure of their own strength, the might of their own weakness. Their own ignorance would be made more and more painfully apparent at each addition to their knowledge ; humble and reverent their feeling whilst acquiring the merest alphabet of wisdom. And if the knowable awed them, what would not the unknowable do ? What wonder if their fearful veneration, at first wise, ultimately degenerated into superstition ? Surrounded by inexplicable mysteries over which they brood forebodeful, their music would reflect the tone and colouring of their own thoughts. It would be sombre, grave, and suggestive of an infinite sadness. They would perhaps occasionally tremble and shudder before the sublimely solemn tones they evoked, and be almost ready to say with Jean Paul Richter : " Music avaunt ! thou speakest to me of things I cannot know nor shall ever know."

Man's whence and whither have stirred deeply other races, but the agitation has found other modes of expression than music. It led the Jews to write the divinest of devotional poetry, the Chinese the most practical and common sense of ethics, and the Hindoos the most ingenious, complex, and metaphysical religious system that the world has yet seen. In the Vedas the greatest human intellects have been painfully and laboriously occupied in the attempt to solve what is insolvable. It would seem as if it were reserved for the nations of the north of Europe, that their yearnings after the infinite should chiefly find expression in music ; and that their " huge dumb heap " of hopes, despondencies, joys and sorrows should have vent in melodies of the most exquisite melancholy.

As far as my reading of the biographies of composers extends, I have found that there is this difference in the temperaments of those of the north and south of Europe ; that of the former was retiring and gloomy, while that of the latter was joyous and elastic. Of the one it may be said, " melancholy marked it for her own ; " while of the other cheeriness and brightness marked it everywhere. They had in common life's struggles to bear, with all life's uncertainties, pains and disappointments ; and only those who know what a highly organised and nervous temperament all composers are blessed (or cursed) with, can adequately imagine how keenly these things are felt by them. They bore " the heat and burthen of the day " well. But how differently their spirits rose at the close of the day ! Where in the memoirs of Italian composers will you find such sad pages as in those of Mozart, Beethoven, Mendelssohn (albeit *he* was so frequently joyous), Weber and Schubert ? These men, each in his degree, seemed to have a " heritage of woe," of which the others never dreamed. They were oppressed with a sorrow or hope " nameless, dark, and drear ; " and out of such experiences they have woven melodies which alternately sweeten and sadden the hearts of thousands ; which search " deeper than ever plummet sounded ; " which

gleam of "a light that never yet was upon sea or land;" and suggest "thoughts that do often lie too deep for tears."

There are some compositions of the great masters of such exquisite pathos and sensibility that they force tears from unwilling eyes, and bring a throng of memories too painful to bear, even for a few moments only. And when one knows how powerfully the composers themselves were affected by playing their own music; how frequently Beethoven was found with streaming eyes leaning over his own piano; how Schubert found his voice thick and faltering while singing his own subdued music; and what wild grief occasionally possessed Mozart while composing his glorious masses; it is not difficult to define what it was that touched them so nearly and so profoundly.

The Swedish national air "*Trostlose Liebe*," has been pronounced by Mr. Chorley, no mean authority, to be the prettiest of all national airs; it is certainly the most plaintive. It is in the minor key throughout. Even the dance music of the Norwegian constantly glides from its joyousness into the same key. Joyousness is a plant that does not flourish in the bleak north. It flowers and blossoms perennially in the south because the air is balmy and soft. There the skies are always bright, and beneath man's foot the earth is fruitful though untilled. There nature uses her children kindly and even "prepares a table in the wilderness" for them. How vastly different are the climatal conditions of the north and south of Europe!

Not music only, but the other arts of expression, architecture, and sculpture; and the mythologies of the north-east of Europe are imbued with the same spirit herein described. For instance, what is Gothic architecture but an aggregate of deep religious aspirations? The hunger of the heart and the fervent emotions of the soul long to find expression in every arch, roof, and pointed window, of the venerable piles erected by the builders of the middle ages, for builders *then* had souls; and temples *then* were not hideous accumulations of stones, bricks and mortar, kept in their places by the law of gravitation mainly. Each mason, carpenter, or hodman, employed on the old buildings, felt his work was holy and that it deserved his best and most disinterested services. He felt that he was a privileged man engaged in a great and solemn undertaking. The earnest purpose which animated these builders has died with them; but their works remain to awe, sadden, charm, beguile, and chasten, the religious feelings of men of all degrees of culture, of all races and times. The Gothic temples are, if I may so speak, petrified harmonies; enduring monuments of an age when one faith was universal, and when man's moral and intellectual faculties were in strict synthesis. A fine unity pervades them, they are permeated by one spirit. In them there is a reposefulness very rare in our age. But, like dark veins in marble, hope, trust, and sorrow, lie imbedded in them; and a longing for "wider and divine worlds." I am not aware that the temples of the nations of the south of Europe have, in any the like, or equal, degree, this distinctive peculiarity. If they have, I shall be glad to be informed of it. In such a case it will be necessary to know the order of the architecture, the period of its erection, and by whom it was supposed to be built; as the Gothic

builders travelled far and wide to inculcate the principles and furnish illustrations of their art.

As far as I have been able to ascertain (but in this particular I shall be glad to be instructed and corrected) the mythologies of the north-west of Europe have a totally distinct character from those of the south. They are not only weird, but hard, gloomy and severe. They are the mental and moral projections of peoples whom nature and nature's laws have not used kindly,—of peoples who feel that life is one long unequal fight with powers without and within, powers which they must conquer or be conquered by. This fact becomes painfully evident to all students of *Thorpe's Mythology of the North of Europe*, *Mallet's Northern Antiquities*, and other works treating of the rise and growth of the superstitions and religions of the north of Europe. Such aids enable one to estimate, with tolerable accuracy, the intellectual and moral attitude of no mean portion of mankind to questions of momentous interest. In these works are pictured, more or less vividly, the hardness and difficulty of the human lot. Everywhere and everywhen man has to endeavour towards an unattainable attitude, to struggle for a something impossible to get. Always the moral is to be silent and to bear uncomplainingly. It is the silent man that finds the treasure, it is the stubbornly heroic man that perseveres to the goal. True, he loses the treasure the first moment that he speaks, or he dies immediately he attains the goal. That is life; such is human destiny; so the unfeeling gods will. These gods, all the while, watch placidly and with unconcern the lives of the good and the bad; impartial, because indifferent to either. The powers of nature are personified as human because so unfriendly in their aspect do they appear to man. They school and discipline him so constantly, repressing here and stimulating there, that he seems to live under the rod. Nature's methods are harsh and summary to the northerner, gentle and forbearing to the southerner, whom she helps in all ways she can. However hard the school, the northerner derives most benefit from it in the long run; but at first their cruelty and relentlessness awe a heart that owns no fealty and bends only to what is stronger than itself. The disease that kills, the lightning that blasts, the thunderbolt that smites, the floods that overwhelm, the cold that bites, the heat that withers—all are enemies, huge, portentous, rhadamanthine, to be placated, appeased, shunned, or endured. Death is the silent land, in its solemn mysteriousness, into which man desires to peer, not from a vague and idle curiosity, but with a reverent and eager inquisition, to see if he can obtain any knowledge, however scant, of those that are loved and lost.

Such, in very brief and imperfect outline, is a sketch of the mythologies of the north-west of Europe. Will anyone, who has studied the mythologies of the south of Europe, say that such mental and moral conditions and phenomena are often paralleled in them? By whom and where?

It is a trite remark that no southern people has produced a Shakespeare;* however that may be, no southerner could have written

* A very good thing too. Shakespeare was, as a comedian, inferior to

"Hamlet." Not only does he want the genius but he wants the melancholy which characterises that play. This is a racial fact of some importance, both psychical and physical. The very words "Past," "Farewell," "Irrevocable," "Irremediable,"* awaken, I imagine, very different sensations in the mind of a southerner to that of a northerner who is oppressed by their intolerable painfulness.

It is interesting to observe what differences there are in ancient Roman, modern Roman, Anglican, and dissenting church music. Each is the natural outcome of widely diverging states of religious consciousness. The music of the early church had both form and colour. It was sonorous, too, like the noble words that generally accompanied it. The ritual was elaborate and impressive, and left on the minds of the worshippers a sense of grandeur and sublimity, not always produced by later music. Those who have heard (and who has not?) some of the ancient Roman hymns and chaunts will remember instances.

The masses of the modern Roman church are exceedingly fine. They stimulate while they overawe the imagination, and bend perforce the rebellious reason. They captivate the ear by their nobleness, sweetness, and beauty. The very words of the catholic service, to those who have ears, have a pathetic history all their own. What generations have repeated them! How countless the hearts that have felt their solemnity! They remain, although the lips that repeated and the hearts that felt, are not. They are laden with the memories of centuries, and sanctified by associations manifold and tender. But I know not if modern Roman sacred music has gained in religiousness on the ancient. I should fancy not. If it were less orchestral would it not be more religious?

Anglican music, like Anglican worship, lacks unity. It is a thing of "shreds and patches." What is of worth in it is borrowed from Catholicism. What it adds to that is frequently very poor. It forms no sequence to the older ritual, and is, indeed, in some respects, opposed to it. All the illogicality of Protestantism comes out in Anglican music. The ear detects it in every protestant service. The litanies, chaunts, hymns and prayers, have little, or nothing in common, they express varying moods, contradictory feelings and convictions.

Dissenting church music is very characteristic. It is obtrusive and noisy and gives in sound what it wants in depth. Occasionally it has sweetness and pathos. Occasionally it comes very nigh the soul. But these are chance moods; it soon relapses itself into its ordinary self-assertion. It is worthy of its hymnology. This last being mostly analytical, the music is thin and poor, and lacks the ripeness and

Molière; as a tragedian, inferior to Racine; as a dramatist, inferior to Lope de Vega. But the southern people have produced the greatest tragedian in the world, Æschylus; and the greatest comedian, Aristophanes. (Dr. C. Blake's note.)

* The Spanish expression *Acabada es*, the Latin *Consummatum est*, conveys a far more magnificent idea than the very poor English, "It is finished." (Dr. C. Blake's note.)

fulness which faith inspires. It is the music of a transitional period, and of a time when men feel that great changes impend in their intellectual and moral beliefs. It is the music of those who long for certainties, and feel they long in vain. It is, also, the music of those in whom ignorance has bred confidence, and a familiarity with divine mysteries which degenerates into unctuous jauntiness.

This, at least, is my feeling, and I have had a wide acquaintance with dissenting sacred music.

In concluding this brief survey of some of the psychical characteristics of the nations of the north-west of Europe, I must not omit to notice the different religious training which the north has had from the south of Europe. Centuries ago, Roman catholicism embraced both. Times have altered. Protestantism broke the spell under which the human intellect was bound, and has enlarged the sphere of man's knowledge only to show him how much there is which he can never know. Catholicism, in engaging to answer all the intellectual and moral needs of man, took from him responsibility, and gave him a restfulness to which Protestantism is a stranger. The change from the old faith to the new (or rather revised) faith, has not been without its effect on music; and the emotional cravings and wild unrest, which characterise the best music of our times, may be largely attributable to this cause.

I have attempted in a very tentative and inexact way to account for a remarkable psychical phenomenon. If my effort should induce an abler person to undertake a better explanation I shall be very grateful to him.

DISCUSSION.

THE PRESIDENT observed that Mr. Kaines had devoted a great part of his paper to the peoples of North-Western Europe. These would probably comprise Scandinavia, Holland, Belgium, France, Great Britain, and Ireland. He (the President) thought that the plaintive character of the music was not common to those nations, but was only found in Scandinavia, Ireland, and Bas-Bretagne. It could scarcely be applicable to England, where there was no national music. Where there was no national poetry there could be no music. The author of the paper asserted that this plaintive character did not exist in any other part of Europe than the north; he (the President) had, however, frequently noticed it both in the south and east of Europe, viz., in Tyrol, Styria, Hungary, Transylvania, and Servia. Mr. Kaines seemed to have mixed up race with climate. There was no doubt that climate had a great effect on the human voice. In Russia were found the lowest bass voices. In France, Picardy produced the best basses; Languedoc, and especially the neighbourhood of Toulouse, the best tenors and counter-tenors; and Franche-Comté and Bourgogne, female voices of the finest quality. The President agreed with the author of the paper that the Italians could not have produced a Shakespeare, but only because they had not yet done so. It did not follow that a nation which had given birth to one of the greatest geniuses of the world (Da Vinci) would never produce a Shakespeare.

The following gentlemen also took part in the discussion which ensued :—Mr. Mackenzie, Dr. Hyde Clarke, Mr. Lewis, Mr. Wake, Captain Brine, R.N., Mr. W. R. Cooper, and Mr. Bernard Quaritch.

The CHAIRMAN announced that this was the last ordinary meeting of the Anthropological Society, an amalgamation with the Ethnological Society having been carried out by the delegates appointed for that purpose by the two societies.

It was also announced that a Special General Meeting of the Society would be held on the 14th of February, at half-past seven o'clock, for the purpose of authorising its Trustees to transfer its funds and effects to the Institute.

SPECIAL GENERAL MEETING.

FEBRUARY 14TH, 1871.

DR. CHARNOCK, PRESIDENT, IN THE CHAIR.

THE Chairman called on the Director to read—

1. The Resolution of the Ethnological Society, giving powers to its President to bring about an amalgamation with the Anthropological Society.

2. The Resolution of the Anthropological Society giving equal powers to four Delegates, to meet the President of the Ethnological Society.

3. The memorandum embodying the terms of union between the Societies, as follows :

“At a meeting of the Delegates appointed to bring about the amalgamation of the Ethnological and Anthropological Societies of London, held 21st January, 1871. Present, Professor Huxley, on behalf of the E.S.L., with Colonel Lane Fox ; Dr. Charnock, Rev. D. I. Heath, Mr. Wake, and Mr. Brabrook, on behalf of the A.S.L.

“I. It was stated that the Delegates of the A.S.L. considered that their Society had pledged itself to abide by their decision in all respects, and that should any proceedings be necessary to give it legal sanction, it was an honourable understanding that that should be done without further discussion.

“II. It was agreed that the name of the united societies should be ‘The Anthropological Institute of Great Britain and Ireland.’

“III. Balance sheets of both Societies were produced and examined.

“IV. Rules for the Institute were agreed to.

“V. The following were appointed officers of the Institute for the first year :—*President* : Sir John Lubbock, Bart., M.P., F.R.S. *Vice-Presidents* : (from the E.S.L.) Professor Huxley, LL.D., F.R.S. ; Professor Busk, F.R.S. ; John Evans, Esq., F.R.S. ; (from the A.S.L.) R. S. Charnock, Esq., Ph.D., F.S.A. ; J. Barnard Davis, Esq., M.D., F.R.S. ; G. Harris, Esq., F.S.A. *Director* : C. Staniland Wake, Esq. *Treasurer* : J. W. Flower, Esq., F.G.S. *Council* : (from the E.S.L.) H.

G. Bohn, Esq., F.R.G.S., F.L.S.; Col. A. Lane Fox, F.S.A.; Hyde Clarke, Esq.; W. Blackmore, Esq.; W. Boyd Dawkins, Esq., M.A., F.R.S.; R. Dunn, Esq., F.R.C.S.; D. Forbes, Esq., F.R.S.; T. Mc. K. Hughes, Esq., M.A., F.G.S.; Dr. Arch. Campbell; S. E. B. Pusey, Esq., F.R.G.S.; (from the A.S.L.) W. C. Dendy, Esq.; Sir Duncan Gibb, Bart.; R. King, Esq. M.D.; Capt. Bedford Pim, R.N.; Rev. Dunbar I. Heath, M.A.; John Beddoe, Esq., M.D.; George Harcourt Esq., M.D.; Joseph Kaines, Esq.; F. G. H. Price, Esq.; C. Robert des Ruffières, Esq., F.G.S.

"vi. Agreed that the services of Mr. J. F. Collingwood as Secretary, Mr. F. W. Rudler as Sub-Editor, and Mr. H. McKay as Clerk, be continued during the pleasure of the Council.

"vii. The assets and liabilities of each Society to be transferred to the Institute.

"viii. The members of either Society to be members of the Institute.

"ix. Agreed that a Council Meeting of the Institute be summoned for Tuesday, 31st January, at four o'clock.

"x. Agreed that Sir John Lubbock, Mr. Dunbar Heath, and the Treasurer, be the Trustees of the Institute."

(Signed) "T. H. HUXLEY.

"RICH. S. CHARNOCK.

"D. I. HEATH.

"C. STANILAND WAKE.

"E. W. BRABROOK."

4. The Circular summoning the meeting.

The following Resolution was then moved by Mr. BRABROOK, and seconded by Mr. KAINES, "That the Trustees of this Society be, and they are hereby authorised and directed to transfer its funds and effects to the Trustees of the Anthropological Institute of Great Britain and Ireland."

The resolution having been put by the Chairman was carried unanimously.

Thanks having been voted to the President and to the Delegates, the Chairman declared the proceedings at an end, and that the Society was now merged in the Anthropological Institute of Great Britain and Ireland.

ETHNOLOGICAL SOCIETY.

NOVEMBER 8TH, 1870.

ARCHIBALD CAMPBELL, Esq., M.D., V.P., IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

The following new Fellows were announced: The EARL OF ANTRIM, Christchurch, Oxford; WILLIAM BRAGG, Esq., F.S.A., F.G.S., Shire Hill, Sheffield; H. RIVETT-CARNAC, Esq., Simlah; and JOHN EDWARD LEE, Esq., F.S.A., F.G.S., The Priory, Caerleon.

The following donations to the Society's library were announced, and the thanks of the meeting voted to the respective donors:

- FROM H.M. SECRETARY OF STATE FOR INDIA IN COUNCIL—A Catalogue of Maps of the British Possessions in India and other parts of Asia.
- FROM the AUTHOR—The Origin of Civilisation and the Primitive Condition of Man. By Sir John Lubbock, Bart., M.P., F.R.S., etc.
- FROM the AUTHOR—A Handbook of Phrenology. By C. Donovan.
- FROM the AUTHOR—The Celtic Origin of a great part of the Greek and Latin Languages. By Thomas Stratton, M.D.
- FROM the AUTHOR—Vocabulary of the Woolner District, Adelaide River, Northern Territory. By J. W. Ogilvie Bennett.
- FROM the AUTHOR—On Insanity in Wiltshire. By John Thurnam, M.D.
- FROM the AUTHOR—Observations on the Geography and Archaeology of Peru. By E. G. Squier, M.A., F.S.A.
- FROM the Hon. E. G. SQUIER—Analytical Alphabet for the Mexican and Central American Languages. By C. Herman Berendt, M.D.
- FROM the AUTHOR—La Création et ses Mystères dévoilés. Par M. Snider; Nouvelle Théorie sur la Formation des Comètes. Par M. Snider; and Les Emanations. Par M. Snider.
- FROM the AUTHOR—Storia della Casa d'Austria. Per A. Snider-Pellegrini.
- FROM the AUTHOR—Iconografia di alcuni Oggetti di remota antichità rinvenuti in Italia. Per B. Gaetaldi.
- FROM the SOCIETY—Journal of the Royal Geographical Society, vol. *xxxix*; and current numbers of Proceedings.
- FROM the SOCIETY—Transactions of the Royal Society of Literature, vol. *ix*, (2nd series,) part 3.
- FROM the SOCIETY—Journal and Proceedings of the Asiatic Society of Bengal; current numbers.
- FROM the ANTHROPOLOGICAL SOCIETY—The Journal of Anthropology; Nos. 1 and 2.
- FROM the COMMISSIONER OF PATENTS, U.S.—American Patent Office Reports for 1867.
- FROM the SMITHSONIAN INSTITUTION—Smithsonian Contributions to Knowledge, vol. *xvi*; Miscellaneous Collections, vols. *viii* and *ix*; Report for 1868; American Statistical Reports; Proceedings of the American Philosophical Society, and of the Academy of Arts and Sciences; Proceedings of the Essex Institute, and of the Boston Society of Natural History; Agassiz's Address on Humboldt; and Anderson's Journey to Musardu.
- FROM the SOCIETY—Journal of the Royal Historical and Archaeological Association of Ireland, vol. *ii*, Nos. 1 and 2.
- FROM the SOCIETY—Bulletins de la Société d'Anthropologie de Paris. Parts for May and July, 1870.
- FROM the SOCIETY—Bulletins de l'Académie Royale des Sciences de Belgique. Parts for 1869; and the Annuaire for 1870.
- FROM the SOCIETY—Mittheilungen der Anthropologischen Gesellschaft in Wien. Nos. 1 to 4.

From the SOCIETY—*Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen*, part xxxii; *Tijdschrift voor Indische Taal-land en Volkenkunde*, xvi, parts 2 to 6; xvii, parts 1 to 6; xviii, part 1; *Notulen van de Algemeene en Bestuurs-Vergaderingen van het Genootschap*, parts iv, v, vi, vii; *Katalogus der Ethnologische Afdeeling van het Museum van het Genootschap*; and *Katalogus der Numismatische Afdeeling van het Museum*.

From the EDITORS—*Matériaux pour l'Histoire primitive et naturelle de l'Homme*. Par MM. Trutat et Cartailhac. Parts for April, May and June, 1870.

From the SOCIETY—*Journal of the Society of Arts*; to date.

From the EDITOR—*The Athenæum*; to date.

From the EDITOR—*The Asiatic*; to date.

From the EDITOR—*Nature*; to date.

COL. A. LANE FOX exhibited a rough stone implement from Borneo (fig. 1). The specimen had recently been sent to this country by Mr.

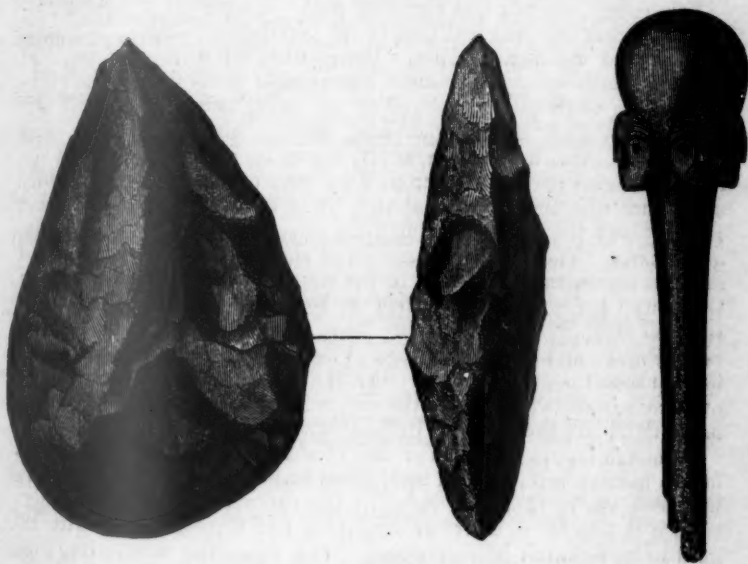


FIG. 1.

FIG. 2.

Everet, and is interesting as being the first implement of the kind which has been discovered in that locality. It is said to have been found in a cave, but detailed information on the subject will probably be duly communicated by Mr. Everet.

Mr. JOSIAH HARRIS exhibited a carved wooden club (fig. 2) which had been found beneath a deposit of guano, twenty seven feet thick, in the island of South Guanape, off Trujillo, on the coast of Peru. The specimen is now in the Christy Collection of the British Museum.

A letter was read from Mr. Clements R. Markham on the significance of the term "Aymara," and a reply thereto was made by Mr. David Forbes, F.R.S.

The following paper was then read by the Honorary Secretary :

VI.—*On the KIMMERIAN and ATLANTIC RACES.* By HECTOR MACLEAN, Esq..

A CAREFUL study of the inhabitants of the west of Europe, from the south of Spain to the north of Great Britain, will lead to the inference that these are principally composed of two elements which are intermixed in an endless variety of ways. These two elements are two races essentially distinct from each other, but which have now, for thousands of years, been commixed to such an extent as to render an analysis of the compound extremely difficult. But, although difficult, it is not impossible ; for the researches of distinguished ethnologists have already done very much to facilitate inquiry, and to open the way towards the desired end.

Two races—one fair and the other dark—intermixed in various proportions, form the principal part of the population of Spain, Portugal, France, and the British Isles. Peculiarities of features, form, and character have led many eminent ethnologists to think that the white inhabitants of all Europe, as well as the dark, consist of several distinct races—such as Scandinavians, Saxons, Slavonians, Celts, and Pelasgians. One fair race, however, seems to have abounded in the fore-mentioned portion of Europe for a longer time ; a race decidedly more numerous there than the other white races, and which contrasts strongly with the preponderating white races of Germany, Scandinavia, and Russia. The peculiar features and character of this race abound more in the British Isles than in France, and more in France than in Germany ; hence English features are found by scientific men to contrast so strongly with German. This race abounded in the British Isles, France, and Spain, ages before Frisians, Saxons, or Scandinavians had set foot upon the ground. At the present moment it is more numerous in the west than in the east of England, and more numerous in Scotland and the north of Ireland than in England.

Although a pure specimen of this race as it existed originally in its native habitat, before it had intermixed with other races, could hardly be found, yet by observing carefully the various degrees of intermixture, it is possible to arrive at something like correct results with regard to its essential characteristics. This race—the oldest white race in Britain, France, and Spain—may be conveniently designated the *Kimmerian*,* for the terms Kelt, Celt, Cimbrian, Cymry, and Gael, although properly the name of one race have been applied to its numerous intermixtures with other races, and have often been of late theoretically employed to denote different races. The race has been known in various regions, and at various periods by the several names of *Kimmerii*, *Galatae*, *Keltai*, *Celtae*, *Galli*, *Gaidal*, *Tochari*, *Caledonii*, *Cimbri*, *Veneti*, *Scoti*, and *Gael*. How it has come to be designated by

* The earliest name by which the race is known is *Kimmerii*, which means "fit companions" or "peers." It is derived from *kim*, "together," and *er*, "a man." The name *Kimmerian* has the advantage of not having become a national name, at periods when it would be necessary to distinguish nations from races.

these several names will be shown in the sequel. It has been so long settled in the west of Europe, and so long intermixed with another aboriginal race, that it has been almost considered indigenous. In eastern England it is to be found mixed with Saxons, Frisians, and Scandinavians; in Cumberland, the Scottish highlands, and various other districts with Scandinavians, and an aboriginal dark race to be described hereafter; in Wales and the south and the west of England with the same dark race, and with various Teutonic races; in the south and west of Ireland principally with the said dark race; and in the north and east of the same country principally with the Scandinavian. The Scottish lowlands have a larger admixture of Saxon and Frisian blood in the south-east: in the north-east the population is principally Scandinavian and Kimmerian; in the south-west the Kimmerian is largely intermixed with the dark race, and with the Scandinavians.

The Kimmerian varies in stature, but is frequently tall. He is often gaunt in appearance, and has an elastic springing step. The thigh and leg are usually very well proportioned with respect to each other; the foot is frequently finely formed, and the instep is high. Men of this race are excellent walkers and runners, to which ancient history, and especially the Scandinavian Sagas bear testimony. They have always been excellent horsemen and cavalrymen, and have ever loved the chase and a pastoral life. The rapidity of French marching is proverbial, and the retreat of the Highlanders from Derby to their own country in 1745 was so rapid that historians talk of it with astonishment. The chest is large and rather square, but generally the digestive organs are not proportionately developed. The head is long and high, the forehead square, and the lower part of it is usually very prominent; the cheek-bones are rather large; the lower jaw and chin often narrow; the lower jaw is placed rather obliquely with respect to the neck, and its contour approaches a straight line. The eyebrows are long and not strongly arched; indeed, sometimes so little arched as to appear to the eye almost horizontal straight lines. The nose is large and sinuous, the face long and angular, the hands square. The colour of the skin is white, with a tinge of ruddiness. The most frequent colour of the eye is light grey, with a shade of blue. The hair is yellow, yellowish-red, and reddish-yellow, passing into dark reddish-brown, and dark brownish-yellow. The Kimmerian eye is remarkably clear and lively: it has usually a very pleasing expression, which sometimes contrasts remarkably with the huge rugged eyebrow that projects over it, and the harsh features which it is destined to illumine. It is free from the fiery lustre of the eye of the dark race upon the one side, and from the cold sternness of the Teutonic eye on the other.

Individuals of this race possess strong and quick perceptive powers, but owing to the buoyancy and vivacity of their character, they are not accurate observers. They are loquacious, argumentative, and fond of disputation. They are clear and acute reasoners, more deductive than inductive, extremely precise, and abhorrent of all vagueness. Their love of precision is powerfully stamped upon the literature and

languages of all peoples in whose composition they form a chief constituent. They are deficient in deliberation, and make abstract argument, rather than fact or precedent, their guide in the affairs of life. They despise expediency, and enthusiastically pant for ideal perfection, which they ever believe can be realised at some future period, however often they may have been already disappointed. In this respect they contrast remarkably with the Teutons, among whom experience, fact, and deliberation play so conspicuous a part. They have a very fertile imagination and much invention, but less constructive and artistic ability, than the Atlanteans, with whom they have intermixed. They believe in absolute right and wrong, which they refuse to make an affair of feeling, law, or contract, to all which they are prone to oppose abstract reasoning, and ideal theories of perfection. From this peculiar cast of mind proceed many of their good and bad qualities; and, when not enlightened, the difficulty of governing them, and their disobedience to law.

The Kimmerian is restless, active, vivacious, and irritable; but he has less enduring power than either the Atlantean or the Teuton. He is full of social sympathy, and looks upon individual and domestic interest as of small consequence in comparison with social duties. He is more attached to persons than to places; his feelings of friendship are extremely expansive, and from a clansman, or a patriot, he readily passes into a philanthropist or a cosmopolite. When a member of an organised community, holding a place assigned to him, no one can fulfil his duties better, or act his part with more firmness and resolution; but, left to himself, he is indecisive and languid. This arises from the strong preponderance of the social feelings in his temperament. His moral notions are strikingly contrasted with those of the Scandinavian race, whose ethical code has always been mostly founded upon law and contract. "Do for yourself, and do no injury to another", is the great moral maxim of Saxons and Scandinavians; and, in order that it might be carried out, laws and contracts were made a thousand years ago at the meetings of the *Thing*, and ever since, at meetings much akin to them, wherever these races have borne sway. The moral notions expressed in the Saga of "Burnt N'jal", and those expressed in the *Essay on the Human Understanding*, by John Locke, do not assuredly differ widely from each other; but certainly both do differ widely from those of Malebranche, Berkeley, Descartes, and Pascal. Law made and administered at the *thing* seems to have formed the basis of morality in Iceland in the time of Burnt N'jal; and, according to the great English philosopher, John Locke, whose form and features point him out as belonging principally to the Scandinavian race, morals have no other basis. It is remarkable that Voltaire, who was Kimmerian-Atlantean, opposed the moral theory of Locke in one of his romances. In those parts of the British Isles where the Scandinavian race preponderates, it is ascertained that much litigiousness abounds. Men of this race go to law coolly about trifles, and all is settled by the decision of the judge. The last thing men of the Kimmerian race do is to go to law, but they dispute and quarrel very hotly about insignificant matters. Hardly any legal decision

can convince a man of this race that he is wrong, and yet no one more readily admits the force of correct abstract reasoning.

The Kimmerians are easily roused and depressed, extremely fond of novelty, and ever inquiring for news. They are braver in attack than in defence. Although possessed of immense aggressive courage, yet they have frequently been attacked in their own country, and expelled from it. Of this, history relates innumerable instances. Their love of glory and of doing daring deeds has too often been to them a source of bitter misfortune; while their recklessness and contempt of danger, have too often deprived them of greatness and superiority, which their genius and bravery would have otherwise enabled them to attain.

Full of sympathy for weakness and distress, and with sentiments of benevolence that induce them to take an interest in the well-being of mankind in all lands, they have been ever ready to march into distant regions to defend with the sword the cause which they supposed to be just; or actuated by religious sentiments, they have endured solitude—of all things the most painful to them—cold, hunger, and all kinds of privation, in order to impart a knowledge of what they have believed to be religious truth, to those nations which they considered to be benighted. In the seventh, eighth, and ninth centuries the continent of Europe was overrun by Irish missionaries, and this propagandism was followed by chivalry and the crusades. All these movements sprang from the Kimmerian element in the French, British, Spanish, German, and other European nations.

Gallantry is a remarkable trait by which this race is distinguished from most others. Amongst them, woman has ever held a high position. She has commanded their armies; ruled as their sovereign; deliberated in their councils; and, as a wife, claimed her own property. Among the Iberians, whom they had conquered, she was held in an inferior condition; among the civilised Greeks and Romans, her position was sufficiently humiliating; the Salic law introduced by the Franks into Gaul, shews clearly that she was not held in very high respect among the Teutons. It is among the Gauls, Britons, and other Keltic or Kimmerian nations, that woman is found holding her true position, and it is among those nations that she is found doing great and noble deeds—deeds honourable to her and to humanity; and from the days of Boadicea to that of Flora Macdonald—whose chivalrous conduct saved the last scion of the royal house of Stuart from being seized as a rebel in the land where his ancestors had reigned—and from that to the present day, there has not been an age in which women belonging to countries in which this race is predominant, have not achieved noble deeds worthy of immortality.

Women of this race do not differ so much from men, either in physical or in mental strength, as do those of other races. This, no doubt, may be partly owing to the respect in which they have been held, and the influence which they have been allowed to exert. The equal position of woman, her merits, her good qualities, her physical and mental excellences, are eulogised in the ancient poetry and tales of those peoples in which this race has been the ruling element, in a manner that might put classical authors, with all their genius and learning, to shame.

As history, tradition, and antiquarian research point to an eastern origin of the fair races of Europe ; and as the oldest white race found in Britain, France, and Spain is the Kimmerian, or Keltic, the question is suggested, What district was the original habitat of the race ? and at what period is it probable that they proceeded westward ? From Herodotus' description of the Kimmerii, and from the names of places, as well as from the names by which the race has been known, in various regions, there are very good grounds for inferring that their original seat was the territory to the north of the Caspian, between the Don and the Volga. Here they multiplied and flourished long before the dawn of history ; rearing and domesticating oxen, sheep, and horses, and leading principally a pastoral and hunting life. As their country became too narrow for them, they impinged upon neighbouring nations, east, south, and west of their own country. Conquering the Tatars to the east of them, they settled among that people, and the commixture of the two produced the Scythian nation. The first part of the word Scythian, *Scyth*, is the equivalent of the Gaelic word *sgiath*, a "bird's wing," or "shield;" and of *sgiot*, an "arrow," or "dart." *Sgiath*, in ancient Gaelic poems and stories, means, metaphorically, "a warrior." *Scot* is from the same root, and also means a "warrior." These Scythians moved eastwards, conquered Central Asia, and intermixed with Mongolian nations to the eastern extremities of Asia. The new nations, produced by successive commixtures, recoiled upon the parent nations. The latter were driven westward before the former ; until at last the Kimmerii, the parent pure white race, were expelled from their original seats, and driven into the Crimea—a district which still retains their name ; but long before that time, and probably as early as they had encroached upon the Tatars, they had also encroached upon south-western Asia, and upon western Europe ; intermixing in all those territories with native races. At all times they appear to have been a roaming race. They had settled in Central Asia, descended into Asia Minor, and even fought battles in Egypt. Bearing the name of *Tokkari Tochari* (*Tuath chara*, "the people of friends," or "the kinsmen people") they are found south of Bactriana, and bearing the same name they had been made prisoners in Egypt. They are represented in Egyptian and Assyrian sculpture, from which it appears that, although more or less intermixed with other races, they have still retained for thousands of years their peculiar physical characteristics.

There are good grounds for believing that the first Aryans were an intermixture of Kimmerii and Teutons with an aboriginal race that those nations had conquered, and that from the commingling of the languages of those primitive races arose the ancient Aryan language, the supposed mother of the so-called Aryan languages. The root *ar* meaning "to plough," is more easily explained by the Kimmerian or Keltic than by any other of the Aryan languages. The literal meaning of *ar* is "above" or "high"; *ar*, "to plough," is raising up the soil; *oir*, or *ear*, "the east," is where the sun rises ; and *iar*, "the west," where the sun sets, means below the above ; *iur*, "mould," that which is raised up ; *ar*, "slaughter," the equivalent of war in English, is strewing the ground above with the dead.

The ethnologist has many reasons for assuming that the Kimmerians or Kelts had moved westward at as early a period as they had moved eastward and southward: that bearing the name of *Gaidal*, "fair men," they had settled in the west of Europe previously to the historic period; and that, having conquered the Atlanteans of Gaul and Spain, they entered Africa, where they settled, and are found bearing the name *Gaetuli*. Sallust talks of these Gaetuli as being among the oldest inhabitants of Africa, and as more warlike than the Lybians, whom he also mentions as one of the oldest nations. He speaks of the invasion of Africa by Medes, Persians, and Armenians, all which nations were a commixture of Kimmerians with Pelasgians, the aboriginal race of Armenia, Persia, and Greece. The Gaetuli of Africa were, doubtless, at the time these latter had arrived, an intermixture of Kimmerians and Atlanteans; the smooth features of the Pelasgians, who are still represented in the inhabitants of Persia and Armenia, and in the ancient sculptures of Greece, contrast strongly with the prominent angular features of the Kelts. The statues of the Greek gods and heroes are not ideal, but represent a race which is still to be found in Asia. The statues of the great men of Greece of the historic period display features which seem to present a combination of the Kimmerian with the Pelasgian. The prominent eyebrows and glabella, the curved nose, the rather prominent cheek-bones, and the tendency to angularity in the face, show that the original handsome forms of the Pelasgians had undergone a change in consequence of intermixing with a race less artistic and less refined, but much more warlike, philosophical, and energetic. Kimmerians, *Gaidal*, *Gwyddil*, or *Gaetuli*, were old inhabitants of Africa before their cousins the Persians, Medes, and Armenians had put a foot on that continent. Of this we have an account in the eighteenth chapter of Sallust's *Jugurthine War*.

The name *Gaidal* is from *cia*, "a man," and *dal*, or *deal*, "clear," or "bright." The word *deal* is from *dè* or *teth*, "that which is hot"; and *al*, "progeny"—the progeny of heat. The modern word is *geal*, which is formed from *deal*. The old form of the word is found as a root in many words, such as *dealan*, "lightning"; *dealradh*, "shining"; *dealt*, "dew"; *dealbh*, "an image" or "a likeness"; *dileas*, "faithful"; *dlighe*, "that which is right." By this name, *Gaidal*, the first wave of Kimmerians distinguished themselves from the aboriginal dark inhabitants of Gaul and Spain, whom they had conquered; the name became in time softened into *Galli*; and this change of name took place in the east before the second wave had proceeded westwards. In ancient Irish the name *Gaidal*, is found; but for the last thousand years the sound of the middle consonant has been lost, and the name is pronounced *Gael*. *Keltol* is but a contraction of *Galatae*, which is from *geal*, "white"; and *ait*, "a place"; and, therefore, means White Inhabitants. By these names the Kimmerians were distinguished from the dark people, whom they had conquered, just as Europeans are called "Whites" in countries where dark races abound. *Kimmerii*, *Cimbri*, *Cymry* are various forms of one word, of which the modern Gaelic equivalent is *coimpire* "a fit comrade," and is derived from *con*, "union," and *fear*, "a man." The Welsh word *cymhar*, "equal and above," or

"partner," is the equivalent of the same name in the Welsh language. The name *Cymry* is not derived from *cym*, "jointly," and *bro*, "land," as Zeuss in his *Grammatica Celtica* supposes, but is the same name as *Kimmerii*. By the name of *Kimmerii* the race distinguished themselves from other white races; but when they settled among dark races they distinguished themselves from the latter by the names *Kelts*, *Gaidal*, or *Gael*. The latter *Cimbri* came when a numerous white population was found everywhere in Western Europe, and when they could no longer distinguish themselves by the designation of *Gael* or white men. It was doubtless a portion of the latter *Cimbri* that seized upon Wales and gave their name to the people and country.

The oldest wave of *Kimmerians* was doubtless those who called themselves *Gaidal*, which name in the form *Gwyddil*, the Welsh at the present day apply to the Irish, and which name in the form *Gwydhili* is the Cornish name for Irish. In Cornish the Welsh are called *Kem-brion*, while the Britons are called *Brethon*. The first wave, the *Gaidal*, consisted evidently of pure *Kimmerians*, while subsequent waves were probably *Kimmerians* commingled with other races. The second wave arrived after *Gaidal* had been changed into *Gall*. At the present day the Scottish Highlanders call their countrymen in the low country by the name of *Gall*. The Gaelic-speaking Irish apply the same name to the English-speaking portion of their countrymen. The Bretons call the French by the same name. The Scandinavians, about a thousand years ago, were so-called by the Scotch and Irish Gael; and in ancient Irish the word meant a foreigner, or stranger; but, in reality, *Gall* is but a corruption of *Gaidal*, and distinguished the old *Kimmerian* settlers of Europe from the new ones.

After these successive hordes of *Kimmerians* had commingled with the dark *Atlanteans*, a mixed people was produced, less tall and fair than the conquerors, and partaking of the physical and mental characteristics of both the original races.

The succeeding waves of *Kimmerians* were composed of people who were fairer than this mixed breed; and, as the latter were already called *Galli* or *Galatae*—Whites, or White Inhabitants—the former, in order to distinguish themselves from the latter, assumed the name of *Veneti*, which also means Whites. The name *Veneti* is derived from the Keltic root *ven*, "white", which has its equivalents in all the modern Keltic dialects: Gaelic, *fionn*, *fhionn*; Welsh, *Gwyn*, *wyn*; Cornish, *Wen*. Another form of the word in Gaelic is *bàn*. It has the form *bion* in "Albion", derived from *Al*, "a rock", and *bion*, "white"; and *bin* in "Sabinus", from *sa*, "good", and *bin*, "white". In Scotch and Irish traditions, this people are highly celebrated. They are, indeed, the principal theme of ancient Gaelic ballad and story. The name, *Feinn*, *Scuit*, or *Gaidal*, is applied to the same people in old Irish. Ancient Gaelic stories and poems celebrate their exploits, chivalry, and generosity. In those poems and stories they are described as fair-skinned, yellow-haired, and long-faced; as swift-footed, eloquent, social, and passionately fond of the chase.

The places of their settlements are still known by their name;

Venetia and *Venice* in North-eastern Italy, and *Vannes* in North-western France. In Gaul, they offered the most formidable resistance to Julius Cæsar, and their ships were much superior to those of the Romans. The name of their capital, *Dariorigum* (*Doire-righ*), the Grove, or, rather, Oakwood of Kings, or Leaders, is very near the spoken Gaelic of the day. *Righ*, or *raigh*, means literally "the arm", and was not understood at any time in the same sense in which the English *king* and the Latin *rex* have been understood. In the Scottish Highlands, those chiefs who took the lead among others were usually called *righrean*, "kings". In old Gaelic songs, the Earl of Argyll is called *Righ Loch Fionn*, "King of Loch Fyne"; Macdonald of Islay is called, in a poem in the Dean of Lismore's book, *Righ Ile*, "King of Islay"; and often, when a chief took the lead of all the Highlanders, he was called *Righ nan Gaidheal*, "King or leader of the Gael"; and so, in conformity with the instincts of the race, we have *Rex Scotorum*, "King of Scots".

The Britanni, called in Cornish *Brethon* and in Welsh *Brython*, the ruling people in Britain, when Julius Cæsar invaded the island, were Veneti. The name Britanni is derived from *brit* or *brith*, "speckled"; and *anni* or *fheinn*, are the same as Veneti. By this name they were distinguished from the Veneti of Gaul, who were not in the habit of staining or painting their bodies. The old inhabitants, a mixture of older Kimmerian settlers and Atlanteans, were distinguished from the Britanni by the name of Albiones. The numerous names of ancient British nations derived from Veneti, *Feinn*, or *ane*, attest the power which they possessed in these isles. There were the *Brigantes*, from *brig*, "valour", and *Antes, Veneti*, "valiant Veneti" (*Fianntai*); the Trinobantes (*Treun Fhiannta*), "brave Veneti"; the Simeni (*Savi-Fianna*) "wise" or "brave Feinn"; the *Novantes* (*Naomh Fianntai*), "sacred Veneti", etc. The *Gangani*, in Carnarvon in Wales, and in Clare in Ireland, from Welsh, *gaing*, "a wedge", and *ani* (*fhienna Veneti*), "the wedge Veneti"; so called from the shape of the districts in Carnarvon and in Clare which they inhabited. *Gwynedd*, the Welsh name for North Wales, means the "country of the fair people".

That the Belgæ were the same people as the Veneti has been fully verified by the researches of literary and scientific men. The name, *Belgæ*, is derived from *bel*, "brave", or "noble", and *gæ* or *cia*, "a man", and they were so called because they were the bravest of the Gauls. The root *bel* means "fire" or "the sun"; literally, that which has life or being, and is derived from *beatha*, "life"; *beatha* itself is from *bith*, "being" or "existence".

The early Roman and Greek historians described the Gauls as large-bodied, fair-skinned, yellow-haired, and warlike. In the time of Cæsar and Tacitus, this description was more applicable to the Germans. One element in the mental character of the Gauls ascribed to them by the early writers still belonged to them in the time of Cæsar, that of being easily roused and depressed. In Cæsar's time, the Germans were braver than the Gauls; but he refers to a period when the Gauls were braver than the Germans, and when they had invaded the latter, and settled in their territory. The Germans of Cæsar's time would,

according to this account; be an intermixture of old Germans and Gallic conquerors. By the intermixture, vigour and activity were imparted to a stolid, imperturbable Teutonic population. A large proportion of the Kimmerian race—a race always fond of travelling and novelty—was carried off from Gaul into Italy, Germany, and other countries, by invasions such as that mentioned by Cæsar, the consequence of which was, that Atlantean elements were increased, and Kimmerian elements diminished, in the country. This explains why the Gauls when Cæsar wrote were inferior in stature and bravery to the Germans.

The dark aboriginal race that inhabited France, Spain, and the British Isles, previously to the arrival of the Kimmerians, still constitutes a large and important element of the population of these countries. It is the preponderating race in Spain; it probably preponderates in the south of France; in the middle of that country it largely abounds; and even in the north and north-east it is far from being rare. It is very conspicuous in South Wales, and in the south and south-west of England; in the south and west of Ireland; and in the inland and northern districts of the Scottish Highlands. A considerable sprinkling is to be found everywhere in England and Scotland: even in the south-east of Scotland, which once formed part of the Saxon kingdom of Northumbria, it is more frequent than might be expected.

Individuals of this race have brown skins; large, lustrous, dark eyes, with long dark eye-lashes; a round head, strongly arched in the phrenological region of veneration, firmness, self-esteem, and continuity. The face is rather round; the forehead is round, sometimes broad, but often low. The lower jaw is strong and massive, and the chin frequently round. The upper lip is large and long, and the lips rather full. The nose is either straight or concave; frequently short, with rather wide nostrils. They have coal-black, or very dark-brown hair, which sometimes curls. There is not much hair on the body, and the beard is weaker than that of the Kimmerian. They have rather thick legs, which are sometimes very much bent. In walking they have a strut, and numerous side motions; but their walk wants the ease and grace of that of the Kimmerian. Both legs and thighs are usually short in proportion to the length of the body. They are broad and well set in body, and are very strong in proportion to their size. They are capable of enduring much fatigue and privation, and can stand an immense amount of coarse labour. Men and women of very fine forms sometimes belong to this race. When a person belonging to it is well-developed, the symmetry of head, features, and chest is truly remarkable. But it is in districts where the race preponderates that finely formed men and women are to be found. A few years ago Dr. Beddoe remarked, in a paper on the Races in the West of England, that the fair-haired women in the West of England were not generally those that got married, but that in reality there was a run upon the dark. It is, however, to be remarked that in the South-west of England, and in other districts where the dark race predominates, fair hair and a fair skin go fre-

quently with coarse features and with ill-formed hands and feet, while a graceful and beautiful form goes with black hair, black eyes, and a brown skin.

The Atlantean is possessed of very great self-respect, strong love of home, keen and powerful domestic feelings, extreme attachment to kindred, much liking to old neighbours, and considerable regard for those with whom he has been long acquainted. He has, however, but little sympathy with strangers, to whom he is usually cold and reserved, but respectful. His patriotism is provincialism, or rather domesticity; for he always views his own home as the centre of his country, or almost as his country. When unenlightened, he is full of antipathies and prejudices. He dislikes strangers, does not seek to associate with them, and, in this respect, is the very opposite of the Kimmerian. The Atlanteans have strong passions, are averse to change, abhor emigration, feel miserable in a strange land, or among strangers, resent injuries intensely, but yet conceal their resentment. They are not so irritable as the Kimmerians, but much more enduringly vindictive. They excel in the mechanical arts, are ingenious and constructive, but are less fond of a pastoral, hunting, travelling, or seafaring life than are the Kimmerians.

Julius Cæsar takes notice of the Aquitanians as a people who excelled in mining. The race has, indeed, always been principally devoted to agriculture and mining. Men of this race have but little ability for speculative philosophy, theoretical science, or any kind of abstract knowledge; but they have more artistic genius than the Kimmerians, who, although they have more imagination, have less constructive power and less concentration.

In literature they excel in deep pathos and in a peculiar kind of humour, which is widely different from the dashing brilliant wit of the Kimmerian or Kelt. To this race Spain, France, and Britain owe their tender and pathetic ballads and sonnets. The Provençal poetry is theirs; so are the ballads of Spain; and so are, to a great extent, those of Scotland.

Their Religion is principally reverence, and has but little to do with philanthropy. It is founded more upon faith and tradition than upon philosophical theology. They are exceedingly firm and persevering; fight gallantly for their home and country; and resist to the utmost all encroachment on their national independence. Numantia and the Silures in ancient, and Saragossa in modern times confirm this view of their character.

The Keltic languages—Cornish, Armoric, Welsh, and Gaelic, both Scotch and Irish—throw considerable light upon the manner in which these two races, the Kimmerian and the Atlantean, have been blended in the west of Europe. The two sounds of *th*, wanting in the Teutonic languages, in French and Gaelic, are found in Welsh and in Cornish. The sharp sound of *th* is the sound of *z* in Spanish, and of *c* before *e* and *i*. The flat sound of *th* is nearly that of *d* in the middle and at the end of words in the same language. These sounds connect the Atlantean elements of England, Wales, and Spain. The Welsh, like Spanish, loves to place the accent frequently on the penultimate syllable. The Welsh

almost entirely wants the sound of *sh*, as does the Spanish. This sound is frequent in Gaelic, French, English, and German. The Welsh language has no words beginning with a combination of *s* with other consonants; neither has the Spanish. In this respect Welsh and Spanish bear some analogy to the Basque, which has a strong dislike to the immediate junction of mute and liquid consonants. These analogies between Spanish and Welsh are to be traced to the influence of the Atlantean admixture in the Welsh and Spanish peoples.

A neuter gender is not now found in Spanish, French, Italian, Welsh, or Gaelic; it abounds, however, in ancient Gaelic and British, as it does in Latin, either the mother tongue, or the representative of the mother tongues of the modern languages of France, Spain, and Italy.

To what is this peculiar change, the loss of the neuter gender in these modern languages, to be ascribed? Doubtless to the influence of the Atlantean mind, which has but little aptitude for abstraction, and in which emotion predominates over intellect. This race, which always views nature associated with life, and which cannot separate life, in thought, from material objects, ascribes sex and life to all things; and so, through the ages, it has modified the influence of its Teutonic and Kimmerian conquerors, and adapted their languages to the feelings and temperaments of those in whom it forms a large constituent.

The letter *f* is absent in Basque; and in Gaelic it is but a feeble consonant, appearing or disappearing at the slightest touch. When initial, it becomes silent by that mutation of the initial letters peculiar to all the Keltic languages; for instance, *fear* becomes *shear*, *fionn*, *fhion*, etc., *fh* being always silent. It is hardly ever found at the end or in the middle of a word. In Welsh it passes by mutation into *b*; a single *f* in Welsh has the sound of *v*; and, as in Gaelic, is not found in the middle or at the end of words. The Gascons and Basques confound the letters *b* and *v*; and in all the Keltic languages the initial *b* passes by mutation into *v*. In the middle of words the sound of *b* is not frequent in Gaelic, and is hardly found at the end of any one of more than one syllable. In the speech of the common people in Spain the sound of *b* is not distinguished from that of *v*, both having a sound much the same as that of the German *w* or Gaelic *bh*. The Berber word *thala*, "a fountain," and the Gaelic word *tuil*, "a flood," connect the Atlanteans of Scotland and Ireland with those of Fez and Algiers.

The love of symmetry and precision, a strong characteristic of the Kimmerian race, is impressed upon their literature, languages, and social institutions. In the structure of the French language this characteristic of the race is very conspicuous, and it is equally so in that of the old Keltic languages. Every word in the Gaelic language is spelt according to one rule, by which the vowels are placed in one uniform juxtaposition; that is, if the last vowel in the preceding syllable be either *e* or *i*, which are called small vowels, the first in the next syllable must be also *e* or *i*; and the same is the case with *a*, *o*, and *u*, which are called broad vowels.

The same love of symmetry is observed in all Keltic poetry, in which assonance, or the recurrence of similar sounds, is a predominant element. There is good ground for inferring that the frequent assonance and the frequent recurrence of similar ideas and sentiments to be found in Keltic poetry, are to be traced to the Kimmerian mind; and that the original Atlantean poetry was similar to the Latin and Greek; possessed of rhythm without assonance. The celebrated Keltic scholar Zeuss shews in his *Grammatica Celtica* that the Latin hymns of St. Ambrose (born in Gaul, A.D. 333, and died A.D. 397) have the Keltic structure, and are adorned with assonance. He has traced the same peculiarities of versification in the works of the poets of the Lower Empire, such as in those of Ausonius and Lucan.

On account of this assonance not being found in the early Latin poets, Zeuss judiciously infers that it was transferred from ancient Keltic into Latin poetry. Assonance is not found in Keltic verse only; but also abounds in most of the ancient Keltic prose stories.

The peculiar structure of many of the old poems and tales points out some of them as more strongly Kimmerian, and others as more strongly Atlantean. In those in which the Kimmerian mind predominates there are numerous analogous things and incidents, immense action, and endless change of scene; as is the case in the "Lay of Oscar," in the "West Highland Tales," collected and translated by Mr. J. F. Campbell; and in the "Liberation of Finn," in the Dean of Lismore's book. A fault that pervades the literature of the Kimmerian race is having too many incidents and extreme contrasts.

Delineations of passion or purpose, with few incidents and with but little change of place, characterise Atlantean poems and stories. The "Lay of the Heads" and "Fracoch" in the Dean of Lismore's book, and the "Lay of the Great Fool," and that of "John, son of the King of Bergen" in the *West Highland Tales*, are Atlantean in form or spirit. In these latter poems smoothness of versification is more prevalent than assonance. The persons and the changes of scene are few; indomitable perseverance and firmness, rather than dash or daring, are the military virtues of the heroes. In Kimmerian poems and stories immense crowds are described fighting; in Atlantean two or three, or so. Kimmerians have ever fought in large masses; guerilla warfare has been the favourite mode of fighting with the Atlanteans.

Great shrewdness and much penetration into human nature belong to the Atlantean; and these characteristics are brought out in many of the old popular Highland tales: as, for instance, "The Inheritance," which, in the manner in which the guilty person is discovered, resembles the story of the cane containing the gold crowns, in Don Quixote. Don Quixote contains excellent delineations of these two races and of their intermediate commixture. The Knight of La Mancha himself is a caricature of the Kimmerian, as his Squire, Sancho Panza, is of the Atlantean.

In tracing the names of ancient nations of the Kimmerian race from the east to the west, the Keltic languages, Cornish, Armoric, Welsh, and Gaelic, afford the best explanation of them, and supply the roots from which those names have been formed. By the aid of those

names, and of Keltic or Kimmerian languages now living, the migrations of the Kimmerian race can be determined and the directions in which they proceeded ascertained with considerable accuracy. Armenia is from *ar*, "high" or "above," and *men*, the equivalent of the Gaelic *muin*, "top." *Men* or *muin*, "top," is the root of the Latin *mons* and the Welsh *mynydd*; *Albania* is from *al*, "a rock," and *ban*, "a peak," the country of the rock peaks, or the mountainous country; *Alban* or *Albainn*, the Welsh and Gaelic names for modern Scotland, have the same meaning, and are not the same as *Albion*, the ancient name of Great Britain, which means "white rock," a name given to the island by the first Kimmerian invaders; *Erivan* in Armenia is from *eri*, "a rising," and *van*, the aspirated form of *ban*, "a peak." *Araxus* from *ar*, "high," and *ax*, the same as *uisge*, "water," *as*, *es* or *eas*, "flowing water," or "water-fall;" *Artaxata* is from *art*, "high," *ax*, "water," and *ata* (*ait*), "a place;" *Oxus*, from *ox* or *uisge*, "water." South of the Oxus, on the parallel of 35° north latitude, directly north of the west of India, were settled a tribe of Kimmerians known by the name of *Tochari*, a name already explained. North of these were the *Sacae*, a mixture of Tochari and Tatars, the ancestors of the Saxons. *Sacae* is derived from *sa* (*sàth*), "to pierce," and *cia*, "a man," and means the piercing or plundering man. *Ges*, from *cia*, "a man," is found in *Siziges*, the name of a people in Central Asia, situated on the parallel 46° north latitude, directly north of Bengal, and in *Iazyges*, the name of another people situated to the north-west of the Sea of Azoph. *Rha*, the ancient name of the Volga, is the equivalent of the Gaelic *sruth*, *shruth*, "a stream." *Tanais*, the ancient name of the Don, is from two Keltic roots, *tan* or *ton*, "moving water," or "a wave," and *eas*, "moving water," or a "waterfall." *Daix*, the ancient name of the Ural, is from *da*, "good," and *ix*, "water."

From Central Asia to the West of Europe, Keltic names may be traced without interruption to the Atlantic Ocean, marking the westward movement of the Kimmerian race; and of the nations produced from their commingling with other races. *Caspium* is from *cas*, "bent," and *bath*, "sea;" *Galicia* in Spain and Austria; *Carrodunum* north of Austrian Galicia; *Carni*, from *carn*, "a heap of stones" or "rocks;" *Liguria*, from *lig*, the equivalent of the Welsh *lhyg*, "a turn round," and of the Gaelic *liug*, "to bend," so-called from the shape of the country; the *Liger*, now the Loire, is "the bending water;" *Lloegr*, the Welsh name for England, means "the bending land," and is so-called because it winds round Wales; *Batavi* is from *bat*, "a mound," or "bank," and *abh*, "a river," and means "the dwellers on the river-banks;" *Cauci*, the name of an ancient people in Germany, and also in the county of Wexford in Ireland, is derived from the shape of the coast of the territory which they inhabited; derived from the Welsh *cw*, "a concavity," and *ci* the same as *cia*, "a man;" *Cherusci* means "true men;" *Cherus* is nearly the Welsh *cywir* or *gwir*, "true;" and this name fully agrees with the character that Tacitus gives of them. *Hispania*, in Gaelic *Easpainn*, is from *his*, the same as the Gaelic *shìos* pronounced *hees*, "below," and *pan*,

same as *pen*, *ban*, or *beann*, "a peak" or "mountain." *Ci ces*, from *cia*, "a man," occurs in the names of the following Gallic, Spanish, and British nations :—Aulerci, Lemovices, Mediomatrici, Cadurci, Vacci, Tamarici, sea-side men ; Arevaci, Paesici, Durotici, Ordivices, Segontiaci, and Cassii. Cantabri is from *can*, same as the Gaelic *ceann*, "head," *tab*, Gaelic *tabh*, "the sea," and *fear*, "a man"—the men at the head of the sea. In the south of Gaul, and in Spain, where the Atlantean race predominates, names with *tan* are the most frequent ; as Aquitani, Lusitani, Vescitani, and Carpitani ; *tan* means "land" in Gaelic, and "under" in Welsh. It is found in *Mauritania*, which connects ancient Gaulish and Spanish names and the Welsh and Gaelic languages with the Barbary States. It is found in *stan* in the names of eastern countries, and there probably nations with the Atlantean element predominant in them met and intermingled with Kimmerian and Aryan nations. *Tan* is not found in the names of nations in Northern Gaul, Germany, Northern Italy, Russia, Scandinavia, or Britain. Such a name as *Coritani*, a British name, is from *corit*, the equivalent of the Gaelic *curaidh*, "a champion," and *ani*, same as the Gaelic *fheinn*, Veneti, and means the champion *feinn* or Veneti.

The institution of Druidism peculiarly reflected the mental characteristics of the Kimmerian race ; their speculative and organising tendencies. As it was not found in Spain, and was peculiar to Gaul and Britain, it may be averred that it was a Kimmerian institution before the race had ever proceeded westwards ; and as it was not found in Germany in the time of Julius Cæsar, there is no ground for supposing that it belonged to the other white races. Cæsar informs us that the Druids speculated much upon the nature of the gods, and other objects in nature. They were the judges and religious instructors of the people. From what Cæsar relates, it appears that their religion was more than mere faith and worship, and that there was present in the race then the same mind which in modern times produced the Institutes of Calvin, the Provincial Letters of Pascal, and the Philosophy of Malebranche, Des Cartes, Berkeley, and David Hume. The name of the chief god of the Gauls is derived from *tut*, the same as the Welsh *twt*, which means "completeness," and from *tat*, "father," and *es*, "person"—the person who is the father of completeness or perfection. *Hessus*, the name of a Keltic goddess, is from *hess*, the same as the Gaelic *teas*, *theas*, "heat." *Teas* is derived from *teth*, "hot," or "that which is hot." *Dagh* is an old Gaelic word for "heat ;" *da* means "good" in Welsh and Gaelic ; *de* and *deas*, "the south, or the warm region ;" *deo*, "breath," from the same root, as is also the Latin *dies*, and the English word *day*. *Druid* is from the Welsh *dir*, "force," and an ancient Irish word *id*, meaning "good," and signifies "good power," or "power of good." *Dar*, *derw*, *darach*, "oak," is derived from *dir*, and means "strong wood."

While the religion of the Gauls had perfection for its aim, that of the Germans was centred in profit ; and this is in full consistency with the character of a people whose highest desire is personal freedom. Cæsar informs us that the Germans worshipped the sun and moon, and those objects in nature from which they derived immediate

benefit. Their religion, however, had undergone a change between the time of Cæsar and that of Tacitus; for, in the time of Tacitus, their worship approached that of the Gauls, and Teutates had become their chief god. This state of matters clearly proves how much the Kimmerian element had gained ground in the German character during the interval of time that elapsed between the age of Julius Cæsar and that of Tacitus. Those German nations that left their own country and seized upon the other countries of Europe, after the fall of the Roman empire, drained away from Germany a large portion of her Kimmerian blood; as the Gallic invasion of Germany, mentioned by Cæsar, had previously done to Gaul.

The Saxons and Angles were evidently an intermixture of Teutons and Kimmerians. As these nations are not mentioned in Tacitus's *Germania*, they probably settled in Germany subsequently to the time at which that work was written. When they emerged first from the Cimbric Chersonese in the reign of Marcus Antoninus, they were obviously a mixture of a new people and of the remains of the Cimbri of Roman history. The name Saxones would appear to be a modification of *Sacae*, and the new people that intermixed with the Cimbri were doubtless a portion of the *Sacae* of Central Asia, who were themselves a commixture of Kimmerians and Tatars.

The Saxon and Angle invaders of England having therefore so large a proportion of Kimmerian blood, their language would doubtless have a strong Kimmerian admixture. On the other hand, the inhabitants of the east of Britain had unquestionably before the arrival of these invaders, a strong intermixture of Teutonic blood. Consequently, the language of the invaders, and that of the natives whom they had encountered, would have so much in common that they would very easily blend into one. It would be wrong to take the Cornish and old Welsh as the exact representatives of the ancient British languages. The Welsh do not call themselves Britons, but *Cymry*. In Cornish they are called *Kembrion*, while the Britons are called *Brethon*.

The effect of the conquest of the Britons by the Saxons and Angles was much the same as if Spain had been conquered by the French. French and Spanish would readily blend, and the new language produced by the intermixture would much depend upon the proportion that the conquerors bore to the conquered. As those Saxon and Angle conquerors had fought furiously against each other for centuries after their settlement in Britain, and as Britons fought occasionally with Saxons against Saxons, and with Saxons against other Britons, the consequences of such fighting and wars would be reverses. Britons would be raised in position and Saxons lowered. Successive intermixture would confound the conquerors with the conquered. The independent Britons and the fugitives who had retired into Wales, would disclaim those Britons who had intermixed with the Saxons, and all those who sprang from the commingling of the two nations. In this manner, Britons, Angles, and Saxons, became, there is very little reason to doubt, one people. The first Anglo-Saxon written was evidently a language which had sprung from that of the conquerors and that of the conquered; but which, at its earliest stage, had more of the speech of the conquerors than at succeeding periods.

The English, with a large intermixture of Teutonic blood, and a very considerable share of Atlantean, are principally Kimmerian in race, and are more truly the descendants of the ancient Britons than the Welsh; whilst their language is not the direct descendant of the language of the Saxon conquerors, but the descendant of both that of the conquerors and a kindred native language.

DISCUSSION.

MR. HYDE CLARKE, while acknowledging the research of Mr. Maclean's paper, objected to its limitation of the white races in these islands to the Celts and English, and of the dark races to what the author called the Atlanteans. There was no evidence that the Kimmerians were the oldest white race, but the contrary. As to the statements of Herodotus, they were partly fabulous and partly worthless. It was very unlikely that the Greeks would adopt Celtic roots for the name of Scythian or Skuthian. They took the name of Skuthian from the race bordering on the Skuthiau, called the Amazons; and in modern Georgian, *Skua*, means a stranger, Skuthian being therefore a term like that of Welsh. As to the Skuthians, the remains of their language show an affinity to Manchoo, which, ethnologically considered, is a reasonable derivation. With regard to the question of races, white or dark, the proto-historic fact we have to deal with, is the remarkable conformity of river and other topographical names, reaching at least from the Assam frontier westward into our own districts. These are not to be explained by Celtic or other Aryan methods any more than they are by Iberian, but they are explained by Caucaso-Tibetan in the form of Georgian. This evidence points to the migration of a vast horde of dark and white races eastward from India to the west. Then, as to Atlantean, as yet there is no material for judging of any Atlantean migration into Spain, for it is erroneous to assume the Iberians or Basques to be necessarily Atlanteans. He (Mr. Clarke) had found that the classification of the Basque language is distinctly with the Dravidian group, with this remarkable peculiarity, that the deficient Dravidian roots are supplied from Kolarian, showing decidedly that the departure of the Iberians was from India. Thus we have two streams, at least, of dark and white races departing from India, and affecting us in these islands, altogether apart from the influence of Celts and English.

MR. J. F. CAMPBELL (of Islay), having been called upon by the Chairman, said:—I am glad to rise at the desire of my clansman and your Chairman, but I have very little to say, for I am not an ethnologist. I have read Mr. Maclean's paper; I have travelled a great deal about the Highlands of Scotland and the British Isles, and I have just been in the West to gather Gaelic traditions. I can confirm Mr. Maclean's statements of fact from my own observation in this kingdom, in Iceland and Scandinavia, and in a considerable part of Europe, including Finland, part of Russia, Germany, as far as Vienna, France, Italy, Spain, and Portugal. I have also run through "the Labrador," and the Northern States on the other side of the Water. I think very highly of Mr. Maclean's paper. I know that he has worked

very hard at the subject for many years. You will think all the better of the writer when you know that by sheer hard brain-work and native wit he has taught himself all that you find indicated in this remarkable paper, besides a great deal of knowledge which does not bear upon this subject, and, therefore, does not so conspicuously appear.

As to the facts, whatever the ethnological explanation may be, it is certain that two very different sorts of men of very distinct types do exist in these our islands, and may be seen in Piccadilly, St. James's Street, and Pall Mall every day. The fact is more conspicuous out in the west, where islanders are separated from neighbouring islanders by stormy seas, and mainlanders are hemmed in by ranges of mountains, so that men of the same type exist in groups.

First, there is a tall, orange-coloured, bony, long-legged, fair-skinned, ruddy, freckled, russet, or occasionally dark-haired man, with blue grey eyes, who is generally to be found rising steadily, or risen to some step on the social ladder. Specimens may be found about Naval and Military Clubs in London and all over the world. That is the man who is called a "Kimmerian" in the paper which has been read, and the writer of it answers to his own description of this race.

There is, secondly, a short, broad, duck-legged, muscular, muddy-skinned, black-haired, squat grey-eyed or brown or black-eyed man, who is generally to be found sticking fast in the mud or seated upon some step below his tall russet neighbour. That is the man here named "Atlantean."

Neither of these typical men is like the lint-haired, raw-sienna-coloured, big, square, bony Scandinavian who now lives in Scandinavia, or the typical flaxen Saxon or Teuton who lives in Germany. The modern Icelanders, taken as a whole, are the exact counterparts of the modern Hebrideans and west-coast men, of whom the bulk are the so-called "Kimmerians and Atlanteans." They are all cross-bred. We know from history that the Icelanders are a mixed breed of Scandinavians, Irish, and Hebrideans.

Amongst the Scandinavians in Scandinavia were and are tribes of black-haired brown-eyed Lapps. In some Scandinavian glens the characteristics of Lapps can all be traced, where the dress, language, manners, and customs of these Turanians have all disappeared. In the Western Isles of Scotland, besides three marked types, which may be distinguished by the colours, burnt sienna, raw sienna, and sepia, black-haired brown-eyed men and women are still to be found here and there who might be Spaniards. The explanation commonly given is that they are descended from the crews of Spanish Armada vessels, which were blown round the North of Scotland, and wrecked in the Hebrides.

Besides these, some may be seen out in the west who might be Basques from the Pyrenees; and some have a decided Negro or Indian aspect, which is easily explained sometimes; and is quite inexplicable in other cases. Some are descended from Scotch colonists and natives of distant lands; others seem to be natives of the Hebrides with long pedigrees. But, speaking generally, men may be divided

into big, russet, orange, and lemon-coloured men, and little dark men, who are the most numerous class, and generally the poorest. These I take to be the "Kimmerians and Atlanteans" as named and described by Mr. Maclean. I have no proofs to offer, but I have come to the conclusion, almost instinctively, that these types represent in some degree invaders and aborigines, Aryans and Turaniars. But, on the other hand, soil and food seem to affect personal appearance, for men of different appearance occupy opposite ends of the small island of Tyree, where difference of soil causes difference in agriculture and food. Those who feed on meal are fair, as the Aryan ploughmen were of old. Those who feed upon roots and fish are dark, as Lapps are who do not feed upon cereals.*

If we think for a moment of our history, we see the utter hopelessness of finding or distinguishing pure races in such a population as ours. The land was thickly peopled before the days of Cæsar; there is a Roman element amongst us, if we only knew where to find it. We know that Saxon, Scandinavian, Norman, Gypsy, Hindoo, Javanese, and Negro blood enters into our cross-breed. But, take the whole together, and the population of these isles may be resolved historically into aborigines or home-bred people in large numbers, and successive invaders in smaller bands. Out in the west the invaders were flaxen-haired Scandinavians, and there we now find manifest Scandinavians living, beside the russet men and the dark men, the "Kimmerians and Atlanteans" of the paper just read. It seems fair to conclude that these non-Scandinavians represent the people whom Cæsar and the Scandinavians found in Britain, and it is good ethnological work to strive to trace them through Europe to Central Asia or elsewhere as far as you can.

I am not sure that this way has been tried before. In "the Book of the Dean of Lismore" are translations from Gaelic ballads written down about 1530, or sooner, in Argyllshire, and published in 1862 in Edinburgh. I have quoted a few passages which describe the personal appearance ascribed to the heroes of these ballads, which I believe to be of very great antiquity.

According to Irish authorities, the Fenians flourished about A.D. 300, and these are quotations from ballads attributed to Osin or Ossian, who was one of the leaders of the Fenians.

A manuscript genealogy of the Argyll family gives the Gaelic names by which different men were described. Together these writings give a series of pictures of men who have succeeded each other as leaders out in the west for about 1500 years. They are "Kimmerians"—"burnt-sienna men."

It will be seen from the quotations that the ancient ballads and the nicknames in the genealogy agree in describing the same kind of russet, orange-coloured, fair, white-toothed, big men, who may generally be found with the names of Maccalain, Macarthur, Macgregor, Maclean, Maclellan, Macdonald, Macneill, Campbell, and other west-country names; and who may be seen in London by the dozen any day.

* This rests on the authority of John Campbell, the Chairman's brother, who is the Duke of Argyll's manager in these regions.

Mr. Maclean says that these russet men are "Kimmerians rather than Atlanteans." I should say that they are more Aryans than Turanians; more invaders than home-bred or aborigines. But, if I take marriages recorded in this Argyll genealogy as a sample of many similar genealogies, it is perfectly plain that every old British breed is crossed with all the breeds that ever bred in these islands. It is the same with every brood whose history is recorded in the peerage or elsewhere. We Britons are Aryans and Turanians, a jumble of nationalities and races, with the qualities of all fused, and no power will ever separate the elements which have been mixing in these islands ever since the days of the flint-workers, whoever they may have been ethnologically.

I take this genealogy because I happen to have it; similar genealogies abound, but I have not got copies to quote from. Your Chairman's tribe, the Campbells, are called in the Highlands, in the Argyll genealogy of 1790, and elsewhere, Clan Oduimhn, or Oduinn and Siol Dhiarmaid: the children, or tribe, or spore, or seed of Diarmaid, the brown-haired man who was the nephew of Fionn, the fair commander of the Fenians.

In Dean Mac Gregor's book Fionn is thus described (p. 27):—

"Marble his skin,
The rose his cheek,
Blue was his eye,
His hair like gold,
All men's trust,
Of noble mind,
Of ready deeds,
To women mild,
A giant he,
The field's delight,
* * *
Excellent he,
Of noble form,
His people's head,
His step so firm."

That purports to be a portrait of about A.D. 200 to 300, and agrees with Mr. Maclean's definition of a Kimmerian of the present day, or a picture of a lady with hair of the fashionable colour, which was fashionable amongst the ancient Gauls, and artificially produced of old as it is now.

Diarmaid is thus described (p. 34):—

"Brave, noble Diarmaid, Mac O' Duine—
Slain, it is a shame! Victim of jealousy.
Whiter his body than the sun's bright light;
Redder his lips than blossoms tipped with red;
Long yellow locks did rest upon his head.
His eye was clear beneath the covering brow;
Its colour mingled, was of blue and grey [or green].
Waving and graceful were his locks behind,
His speech was elegant, and sweetly soft;
His hands the whitest, fingers tipped with red;
Elegance and power were in his form;
His fair soft skin covering a faultless shape.
No woman saw him but he won her love."

Oscar, grandson of Fionn and son of the bard, is called (pp. 41, 42) —

"The fair-skinned hero,
His fair, soft eyelid fell."

Cairbre, another hero, though a foe, is described as "ruagh," roy, russet; the colour meant by roy, in *Rob Roy*, the "Burnt Sienna" of painters.

Gaul, or *Goll Mac Morna*, another hero, is described (p. 45) :—

"Brown are his locks,
Marble his akin,
Perfect his form,
All full of grace,
His teeth so white."

The description of good white teeth, like the flower-petals of, say, a daisy, agrees, I believe, with the fact, proved by skulls, disinterred.

These ancient portraits of leading warriors all represent what Mr. Maclean calls "Kimmerians," and they are all Fenians who lived before A.D. 300 or thereabouts.

Fraoch was different; he was of the black-haired variety (p. 57):—

"Lovely those lips, with welcomes rich,
Which women liked so well to kiss.
Lovely the chief whom men obeyed.
Lovely those cheeks like roses red;
Than raven's hue more dark his hair;
Redder than hero's blood his cheeks;
Softer than froth of streams his skin;
Whiter it was than whitest snow;
His hair in curling locks fell down;
His eye more blue than bluest ice;
Than rowan's red more red his lips;
Whiter than blossoms were his teeth."

He was also as tall as a ship and slew a dragon, according to the ancient legend.

It is common in the Highlands to find a dark-haired individual in a russet family, and this poem exactly describes this kind of man. Mac Donald, Prince Albert's Jäger, was a very tall black-haired gray-eyed man; his brother is a russet, yellow, orange-coloured man.

In the *Poem of the Heads* (p. 58) are many descriptions of heads hewn from their bodies in revenge for Cuchullin's death. Amongst them are "Black-haired with ruddy cheeks;" "With smooth soft flowing hair, an eye like grass, his teeth like bloom;" "A fair-haired head;" "Six hideous heads, blue in the face, their hair so black," which seems to mean Atlanteans; "A head noblest of all, with bushy golden yellow locks," which was the head of Mac Finn, Mac Ross, son of Fair, son of Ross the Red, the son of Cruith, King of Leinster.

At page 70, it is said :—

"There lies beneath the mound to the north,
Mac Cumhal's son, in battle firm.
Of Dearg's (Red's) daughter, the white-toothed-son."

Conan, another Fenian worthy, was blue-eyed and bald (p. 86.)

At page 100 is a description of an Irish king, who reigned A.D. 916, "Neill black knee":—

"Fair he was, all except the knee;
Great were his beauty, and his fame;
Soft were his locks, and gray his eye."

At page 109, a poet of more modern times, describes a lady whom he admires:—

"Her skin like froth of waves;
Ruddy and soft her hand;
Her lips like berries red;
She of curling locks,
And colour richly red."

At page 134 is an address to the Earl of Argyll, who was slain at Flodden 1513. In this several of his ancestors are described by their nicknames. The poem ends thus:—

"Wake thee up, thou son of Colin;
Golden haired one, war is begun.
'Tis not good to sleep too much."

At page 152 is mention of

"From Eirin's princely champions,
A troop with soft ruddy (russet?) hair."

In short, Gaelic poetry, current about A.D. 1500, and then attributed to Osin or Ossian, and other ancient mythical poets of A.D. 300, and intermediate dates, described leading men who were like those whom Maclean describes as "Kimmerians," now living in the West Highlands, and people whom we meet every day in London. The metallic lustre of the hair is the peculiarity which is most conspicuous in the breed now, according to my views.

But, if we take up the Rig Veda, or any other ancient heroic Aryan composition, the leaders are described as fair, blue-eyed, golden-haired, yellow-haired or brown-haired, orange or lemon coloured, tall, active, russet men. Indra is so described in the Rig Veda. It would be long to name all the heroes who were Barbarossas in Aryan mythology. Therefore, I take a long stride at once, and call the russet orange-coloured men of Britain and all other like men, "Aryans." The Kimmerians were an early western colony, but Indra was a Barbarossa, and he went east. Inasmuch as the type exists, it does not seem necessary to invent an imaginary Solar origin for all these Aryan leaders and heathen gods.

Who the other people, admired of ancient British poets, may have been, it is not so easy to say. Like Fraoch of the ballad they were "black, white, and red." Hair black as the raven, cheeks red as the blood of a fawn, skin white as the snow upon which a raven lit and a dead fawn was laid, when the prince in the story looked out in the morning and fell in love with the lady whom he there and then imagined from what he saw.

If these "black, white, and red" blue-eyed Scotch beauties be "Atlanteans," they abound chiefly in the west of Scotland, and they are a very good-looking race when they are good samples. I know nothing exactly like them out of the Highlands of Scotland, and I suspect that

they indicate a cross between tall russet Aryans of Indra's golden breed, and short black-haired Turanians, who were pre-Aryan in these our isles. I leave this matter in your own hands, but here is a short list of ancient nominal Campbell family portraits, to show continuity of carrots in the North.

620. Dun Farquhar ("Ferither our").

646. Duimhn mòr ("the big").

786. Duimhn the red-haired ("falt, dhearg"). Farquhar, the fair russet ("fin ruo").

860. Duimhn the red ("dearg").

904. Duimhn the brown ("donn").

977. Duimhn with the white teeth.

1254. No. 24 on the list, 8th Campbell, 9th black knight of Lochow; Callen, or Colin the big.

1450. Archibald the russet, roy ("ruagh")

1553. Archibald the russet, the younger.

1603. Archibald the grim.

1703. John the russet, Duke of Argyll and Greenwich.

1870. George, the present Duke, is golden-haired, and all his family are "Kimmerian, with lustrous metallic hair."

I am quite aware that a modern theory converts Indra's beard, the hair of Phœbus, and Balder, and Fionn, into rays of yellow sunlight. I prefer the simple terrestrial explanation, which is before our eyes, and believe that these mythological Aryan leaders were men very like those whom we meet every day in London; orange or lemon-coloured, or golden Aryans, invaders of lands occupied by dark, or by black-haired non-Aryan men, with whom the yellow-haired "Xanthochroi" have been crossed. Those who wish to see the short dark men in numbers, will find them between Barra Head and the Butt of Lewes, and all down the west coast of Europe as far as Gibraltar. They are not like Lapps, who are black-haired also; I suspect that they represent some cross between fair and dark races. Whatever they are, I can confirm Mr. Maclean's statements of fact. These two kinds of men do exist amongst us. Mr. Maclean's account of their mental and other peculiarities is taken from his own observation, and from his reading; these and his conclusions must take their chance; I have not formed an opinion upon the numerous questions which arise.

NOVEMBER 22ND, 1870.

PROFESSOR T. H. HUXLEY, LL.D., F.R.S., PRESIDENT, IN THE CHAIR.

The minutes of the last meeting were read and confirmed.

The following new Fellow was announced: GEORGE MACLEAY, Esq., Pendhill Court, Bletchingly.

Mr. EDWYN REED exhibited rubbings from three inscribed wooden tablets from Easter Island.

The Rev. F. W. FARRAR, M.A., exhibited four stone implements from the Naga Hills, and communicated the following note upon them :

VII.—*Note on STONE IMPLEMENTS from the NAGA HILLS.* By Lieutenant BARRON, B.S.C.

THE Naga Hills, whence these stones were brought, lie about 27 deg. N. lat., and between 96 and 97 deg. E. long. They form the boundary between the north-east corner of Assam and the northern part of Burmah. All four stones were brought to me by the same person, a Naga, whose name is Man. No. 1 (fig. 3) was brought to me at the end of March, 1869, while I was encamped at Jeypore, near the Naga Hills. Man said it was found on ploughing a field. No. 2 (fig. 4) was brought to me on the 1st of April at Jeypore. I made the following notes:—"Man, a Naga, brought me another axe. When questioned, he said that they fell from the heavens, that they were of



FIG. 3.

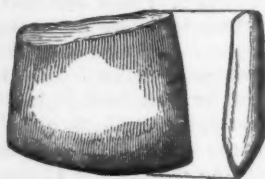


FIG. 4.

three kinds—one like No. 1, the other white (native word, "*boga*"), and the third red (native word, "*lal*"); that this one, No. 2, was found three months before; that a tree was knocked down, and near it was a hole in the ground from which the stone was taken; and that only fortunate people could find these stones.

"After I questioned Man, there passed three Fakials or Shans, who were originally from Burmah, and are quite distinct from the Assamese or Nagas. I called them up, and shewed them first No. 2. I asked them if they knew what it was. They said that it was a stone from heaven, but was a *dead* one, and not so good as No. 1, which I then showed them; that they fell from the heavens, and were of three kinds—one kind being like brass (or as they expressed it, like their *brass pots*); that only fortunate people could find them; and that they fell all over the country, and in their country too (*i. e.*, in Burmah).

"They evidently thought that some virtue had gone out of No. 2 (fig. 4) as they spoke of it as *dead*, and of No. 1 (fig. 3) as *living*, as if the stone-spirit was influenced the same way. In fact, the sharpest of the three Shans turned up his nose at No. 2 stone, but looked pleased when he saw No. 1, and said that it was the real thing.

"There was no communication between the Naga and the Fakials during the two conversations, and the interpretation was made through a Döanea—an Assamese. The similarity of the ideas of the two nations about these stones is curious. It appears that the idea of their falling from heaven has a hold of all their minds."

In conversation with these men I said that the stones from heaven

were generally round, and not of this shape (I meant meteoric stones). My Bengalee officials said that they knew the round stones from heaven, but had never seen them in this other form.

The Fakials said that these axe-shaped stones are found generally within a foot of the surface of the ground; the Naga said about a cubit, i. e., he pointed from his finger tips to his elbow.

The Fakials, though they recognised the forms of the stones, said they had none at that time; otherwise I would have endeavoured to obtain them.

I omitted to note the cause of the tree falling as mentioned by the Naga, if he told me; but I may state that on the 10th December, 1868, a violent earthquake occurred in Cachar and Assam, which caused numerous rents in the earth in Cachar, and in these Naga hills was sufficiently severe to cause, perhaps, trees to fall. I was in the same range of hills when the earthquake took place. The date of the stone No. 2 being found, according to the Naga, agrees wonderfully with the date of the earthquake, that is to say, if any credit can be given to his story. I think in this case it might be probable that the place where the stone was found might be where the roots of the fallen tree had torn up the ground. The natives have, however, another superstition connected with these stones, viz., that when they fall they sink into the ground, and, after lying a certain time, the ground opens, and they are found in the fissure, or come to the surface.

No. 1 appears to be jade or serpentine. On cutting No. 2 with a knife it is soft and apparently a sort of marble or limestone. No. 1 could not by lapse of time become of the same appearance as No. 2, I am at a loss, therefore, to account for the idea of the natives, that No. 2 was useless and had become *dead*. The Naga parted with No. 2 at half the price of No. 1.

I told the Naga man to bring me any more he could find. A few months afterwards he came to me at Dibrooghur, about forty miles west of Jeypore, and brought me Nos. 3 and 4. I gave him less for them than for the others. All four appear to be genuine, as their forms are different, and are closely allied to forms of the same sort of axes found in other countries.

I may note that in one of the published papers of the "Asiatic Society of Bengal" for 1868 or 1869, it is stated, as far as I recollect, by a gentleman, who apparently had found stone axes in Lower Burmah, that they were also found in Upper Burmah, but that there the soft sort (like Nos. 2 and 3) were genuine, and those of jade (like No. 1) were suspicious. It was curious, however, to find that the Fakials, who came originally from the Upper Burmah, and the Nagas on the border, all look on the jade stone as the best, and do not value the others.

As I know of only two other stones, besides these, from the Naga Hills, that have come under observation (viz., Lieut. Steel's and Mr. Haly's specimens, both of jade, I think), perhaps further inquiry will alter or confirm the opinion expressed in the Asiatic Society's paper.

The following paper was then read by the Assistant-Secretary :

VIII.—*THE CONCORD, THE ORIGIN OF PRONOUNS, AND THE FORMATION OF CLASSES OR GENDERS OF NOUNS.* By W. H. I. BLEEK, Esq., Ph. D.

I PURPOSE in the following paper to detail, in as few words as possible, the main results of the comparative grammatical researches which have led me to South Africa, and occupy me there.

1. The question which the South African languages appear to me mainly adapted to settle, is that of the original pronouns,—of the concord, and of the classification of nouns as based upon the use of pronouns.

2. To place this question in its true light, it is necessary that I should first state what I understand to be pronouns, or what I call true pronouns. In using the term "pronoun," I have found myself constrained to lay a stress upon its etymology, and to allow only those words or particles to be true pronouns which do nothing but stand in the place of nouns, *i. e.* which, without a meaning of their own, merely represent the noun, or nouns, for which they are used. In this sense, our so-called pronouns of the first and second persons are not true pronouns, as they always imply the notion either of a person speaking or spoken to. It is true that the particles indicating these pronouns are practically very much used in places where true pronouns can be employed; they are, however, not only theoretically distinct, but their origin is also quite different from that of the true pronouns. As such I regard only the so-called pronouns of the third person (*e. g.* in English "he, she, it, they," etc.), or more strictly speaking the pronominal elements which originally formed their essential parts. It will be objected that in English the pronoun *he*, besides its representative character, always implies that one person of the male sex is indicated, and similarly *she* a person of the female sex, etc.; but when we follow the history of these pronouns we shall find that this was by no means originally the case, and that it is only latterly that these sex-denoting meanings have, by a logical adaptation, been imparted to them. But this will become clear when we follow the origin and the development of true pronouns.

3. There must once have been a period in the history of language when such a thing as a pronoun did not exist. If a noun that had already been used was referred to, it had to reappear bodily. But even at that time it will have been allowable to represent a compound word by one of its constituent parts. We may rightly assume what in every language is a usual practice. Whenever the thought recurs to an idea which has been expressed by a composition of two or more words, it may be quite sufficient to repeat only one of these words, to which, however, by implication, the sense of the whole composite is attached. In fact, when it is known or can be assumed what is meant, one short word may suffice to indicate each one of a whole set of words compounded with it. Thus in English, the word *glass* is very frequently used alone, either for "spy-glass," "weather-glass," "looking-glass," "wine-glass," or any other compound formed with

the noun "glass," or it may simply indicate glass as a material. But although a noun can thus be represented by a small portion of itself—this is only the case, because this small portion when used separately, includes the idea of each of the more detailed composites, for which it stands as a representative. Similarly, instead of "boatman, fisherman, hangman, madman, washerman," etc., we can use the simple noun "man,"—not so much because it is a constituent part of the above nouns, but because each of the persons indicated by one of them is really a man. In fact the word "man" might stand for "soldier, tailor, beggar," etc., just as well as for any of the nouns compounded with it. There is nothing pronominal in this use of a part of a noun for its whole; yet, from this mode of indicating a whole compound word by one of its parts, pronouns appear in the first instance to have arisen.

4. As is well known, compound nouns become derivatives in consequence of the parts to be determined losing their meaning as separate words, i. e. becoming obsolete. There is no doubt that many of our present derivative suffixes, such as "-dom" (related to "doom"), and "-ship" (from the same root as "shape"), were originally used as independent nouns, having then a meaning when standing by themselves, just as the nouns "glass, man," etc., now have. At that time, of course, the original forms of *dom* and *ship* could quite as well be used respectively to represent any noun formed with either of them, as the above nouns ("glass, man," etc.), can now, when standing for nouns compounded with them. But, at the present moment, it is impossible for us to use the syllable *dom* for the purpose of representing a noun of which it forms a part, e. g. *kingdom*; nor can the syllable *ship* in *friendship* be used in a manner similar to that which is allowable with regard to the homophonous syllable in *steamship*. We can say, "Let us see the *steamship*; that *ship* is really a powerful *ship*; we like to see such a *ship*;" but we should be merely ridiculous if, in speaking of "friendship," we attempted to say "Friendship is an admirable *ship*, this *ship* is a beautiful *ship*, we like to see the existence of such a *ship*." Nor could we say ¹*The king-DOM*, ³*our DOM*, ⁴*which DOM* ⁶*is the GREAT DOM*, ⁷*the DOM* ⁹*appears, we love* ¹¹*the DOM*. Yet in the South African BANTU languages a construction like this actually exists, and the above English absurdity is only a literal translation of the Zulu sentence, u-BU-kosi B-etu o-BU-kulu BU-ya-¹²³⁴⁵⁶⁷⁸⁹¹⁰¹¹¹²¹³¹⁴*bonakala, si-BU-tanda*. (Our great kingdom appears, we love it.) Here u-BU-kosi "kingdom" is a derivative, and the syllable BU- has no longer any meaning of its own when standing by itself, although it is still used to represent u-BU-kosi, "kingdom," as well as all other nouns derived with BU-. There can be no question that this syllable (BU-), or a prior form of it, had originally an independent meaning, and could be used with such when standing by itself. Whilst becoming obsolete as a single noun, it has yet retained the faculty of re-

presenting all nouns compounded with, or more properly speaking, derived, with it. It has thus become a pronoun which can be used for all the nouns formed with the prefix *BU*-, and these nouns, therefore, constitute one class, which has its peculiar forms of concord, in all of which the pronoun *BU*- (originally identical with the derivative prefix of the nouns for which it stands) is the distinguishing element. Similarly, the syllable *KU*-, which, as derivative prefix in Zulu, is the formative element of all infinitives and of some other nouns, is also

used as pronoun for the nouns derived with it, and thus u-¹*KU*-²*tanda*³
⁴*KU*-⁵*etu* o-⁶*KU*-⁷*kulu* *KU*-⁸*ya-bonakala*, si ⁹*KU* ¹⁰*bonakalisa* ("our great
love appears, we make it appear") is literally: the ¹¹*lov*-¹²*ING* our ¹³*ING*
which-¹⁴*ING* (is a) great ¹⁵*ING*, (the) ¹⁶*ING* appears, we make the ¹⁷*ING*
appear.

In this case, the original meaning of the *KU*- (which as derivative prefix forms infinitives and a few other nouns, and as pronoun represents these infinitives and other nouns composed with it) is still quite clear; for although it no longer occurs as an independent noun, it has continued to exist as prefixed directive or preposition, with the meaning "to, from." There is no doubt that this preposition is used with verbs in the Bantu languages, for the purpose of forming infinitives, in an analogous way to that of the corresponding English preposition "to." Thus in the Zulu ¹*ngi*-²*ya*-³*ku*-⁴*tanda* (I shall love)

which is literally ¹*I* ²*go* ³*to* ⁴*love*, the *ku*- is merely used as a directive like the "to" in "to love;" but the Zulu infinitive has the faculty (which the English has not) of being constituted into a noun in which the prefixed directive becomes a derivative particle, and, as such, that part of the noun which used by itself represents the whole. Thus in u-*KU*-*tanda* *KU*-*mnandi*, "to love is sweet," the first *KU*- is used as a derivative prefix, to which the second *KU*- refers as pronoun.

5. This faculty of using one portion of a word to represent the whole—although the said portion, when independently used, possesses no meaning of its own—no longer exists in the more highly advanced languages*. But in many American languages the faculty of incorporation, as it is called, appears to be of a similar character. It is true that many instances of so-called incorporation reduce themselves merely to strong contractions, caused by the rapid pronunciation of a compound word. There remain, however, a good number of clear cases, in which we cannot escape the conviction that, in American languages, compound or rather derived words are frequently represented by one of their parts, which part, when standing by itself, has now no meaning of its own. But there is no regular system of representation here discernible like that which is met with in the South African Bantu languages,—and, therefore, the representative parts have pro-

* The satirical licence by which we can speak of a girl in her *teens*, studying the *ologies*, exceptional as it is, is of course different in its origin as well as in its precise use, to that representation of the noun by one of its parts, which we find in the South African Bantu languages.

perly no claim to be called pronouns, nor is any classification of the nouns hereby effected. On the whole, we can only consider this practice of so-called incorporation as the scanty relic of a former plastic condition of the language, in which a general and regular representation of each compound word by one of its parts was allowable.

6. Nor do any of the South African *Bantu* languages, with their regular system of representing the whole of a noun by one of its parts, exhibit this faculty of representation in anything like the vigour in which it must have existed in former more plastic periods of the language. From what we now see in these languages, we may rightly conclude that in prior stages the number of such representative elements must have been very great. When the great mass of the nouns of a language were derivatives, which had inherited the power of being represented by their derivative syllables, from a prior stage in which they were merely compound nouns,—the number of such representative particles of the nouns was probably as great as the number of the derivative particles of the nouns themselves. As the latter, however, like other grammatical portions of the language, are very liable to euphonic change, numerous cases of homophony would be produced between derivative particles that were originally distinct. By this, and by many of the derivative particles falling into disuse, the number of representative particles would soon be reduced, when once the power of treating new derivative particles as representative elements of the nouns had ceased. These processes, which it may have taken ages to accomplish, settled the number of representative elements of the nouns, *i. e.*, true pronouns, at a certain number. When this was once the case, the use of these latter would also be extended to those nouns which were not formed with derivative particles that could be used as representative elements. Here analogy would come into play; and they would mainly be represented by such pronouns as referred to subjects similar to them in meaning. Otherwise, they would have had no pronouns to represent them, and must always have been repeated when referred to.

7. The PRONOMINAL languages, as we call all those in which true pronouns, at first identical with the derivative particles of the nouns, thus exist, are divided into two classes, according to the original position of these derivative particles, *i. e.*, whether they stood at the beginning of the noun or at its end. In the first case they are called PREFIX-PRONOMINAL languages, in which, therefore, the pronouns are originally identical with the derivative prefixes of the nouns. This class includes the BANTU and GOR families. In the other class, that of SUFFIX-PRONOMINAL languages, the pronouns show an original identity with certain derivative terminations of the nouns. In this class we know as yet, for certain, only one large family, that of the SEX-DENOTING languages.

8. When the number of representative elements (and pronouns identical with them) was once fixed in the Pronominal languages, the general natural tendency was continually to diminish this number. The fullest of the South African BANTU languages shews sixteen (or perhaps eighteen) of these different representative elements of the

nouns, of which two or three are in a dying-out stage, being each used only for one or two nouns. In the *Kafir* and *Setshudna* dialects this number is already reduced to thirteen, and in the *Mpongwe* to ten. In the fullest SEX-DENOTING tongue (the *Nama* dialect of the *Hottentot* language) the number of such representative elements of the nouns is only eight, and one of these (that of the common singular) has disappeared even in the other *Hottentot* dialects, and has only, as yet, been met with in one other Sex-denoting language, viz., the *Khasi* (spoken in the Cassia mountains of Lower Assam).

9. The tendency towards easier pronunciation (that grinding force to which the smooth phonetic systems of modern languages are mostly due) not only affects the system of representation with regard to the number of the representative elements, and of the thereby constituted classes of nouns, but also has particularly strong effects upon the visibility of the concord in the different parts of speech. In the first period of the Pronominal languages, each word of a sentence could only clearly be connected with a noun, or referred to it, by having the representative part of the noun actually attached. Thus there was originally an identity of form between the pronominal elements which established the concord, and those derivative particles of the nouns to which they referred. The essential elements of each noun reappeared wherever anything referred to the noun,—and thus parts of the nouns were used as pronouns, which pronouns connected every other part of speech with the noun. When these true original pronouns came much into use, there must have been almost an omnipresence of them. Nothing that had the slightest reference to the noun can have been destitute of these pronominal elements. At first, as we said, they were perfectly identical in form with those parts of the nouns (the derivative particles) from which they drew their existence. But both derivative particles and pronominal elements were liable to change; and the position and surroundings of each would mostly determine the character of such changes. Probably in no language that we know of, are either the derivative particles of the nouns, or the pronouns referring to them, in the forms which they originally possessed. Yet, in many instances, the changes in the derivative particles and in their pronominal representatives have run so parallel, that there are only slight deviations and abbreviations perceptible in their different forms. Thus the *Kafir* derivative particle *KU-* has almost throughout the very same syllable as its corresponding pronoun. Only as article as well as in combination with the relative particle *a-*, the consonant of the pronoun *KU* has been dropped and *U* alone remains. Again the *Kafir* derivative particle *BU-* is frequently represented merely by its consonant *B* alone, and occasionally only by its vowel *U*. The same vowel is in other cases a representative of one of the two *MU-* derivative prefixes of the *Zulu* language. In the latter language, one of these two *MU-* prefixes has as its corresponding pronominal elements such discordant forms as *MU-*, *M-*, *U-*, *A-*, *-KE*, *-YE*, and *-GU*. Taken in conjunction with other evidences, these apparently irreconcilable forms point to an original form *NGUA*. This *NGUA-* had, in its position as derivative prefix, already been smoothed down to *MU-*.

at a period preceding the division of the present known South-African Bantu languages; for, the forms which this derivative prefix has in all of them are either this *MU*- itself, or mere abbreviations of, or euphonic changes from it. This *MU*- of the first personal class of nouns is, however, almost the only instance in the South African Bantu languages, in which the forms of the prefixes and pronouns are so different from each other that their original identity is no longer clearly visible.

10. Yet the comparative grammar of the South African BANTU languages abounds with instances where these representative elements, be it in their position as derivative particles (prefixes) of the nouns, or in their quality of pronominal elements, have been greatly varied and modified in their forms. Thus the *prefixes* of the nouns have been very frequently so reduced in form as to consist merely of one letter, and there are very few of them which are not, in one or other language, most generally elided. With some few of them, indeed, this falling off is of very frequent occurrence in most of these languages. In such cases (*viz.*, when the representative element in the noun, i. e., its derivative prefix, has fallen off), the concord and class of the noun are not indicated by its own form, but merely by that of the pronominal elements referring to it. For instance in Tette, *fāra RI-kūru*, "a great voice," the noun *fāra* has no longer a derivative prefix to point out the class to which it belongs,—but the pronominal element *RI*-, of the adjective form *RI-kūru*, clearly shows that the noun to which it refers belongs to the 5th (*RI*-) class, the nouns of which were originally all formed with the prefix *RI*-, or with more ancient forms of the same prefix. The same adjective in Tette would have the form *MU-kūru* when referring to a noun of the 1st (personal *MU*-) class of nouns, *WA-kūru* to one of the 2nd (*WA*-), *Ū-kūru* to one of the 3rd (impersonal *MU*-), *I-kūru* to one of the 4th (*MI*-), *TSHI-kūru* to one of the 7th (*TSHI*-), *I-kūru* to one of the 9th (*N*-) class of nouns, etc.

11. On the other hand, the pronominal elements that bind the other parts of speech to the noun, are as liable as, and in many cases more liable to euphonic changes than those derivative particles of the noun from which they draw their life. In fact, the comparison of the South African BANTU languages furnishes us with numerous examples of cases in which these pronominal elements are worn to shreds, and with not a few in which they have been dissolved altogether,—be it by the pressure of surrounding elements, or on account of other reasons. The natural consequence of this is, that those parts of speech, from which the pronominal element has thus disappeared, lose the appearance of being bound by concord to the noun. Yet the impress of this connection is left upon the spirit of the language. There is an invisible tie still remaining from that once bodily reproduction of a part of the noun, by which the parts of speech were first brought into connection by the noun itself. This is, however, only true as far as regards the distinction of the parts of speech, produced originally by the different application of the pronominal elements; but when certain parts of speech are no longer connected by any apparent concord with the nouns to which they refer, the division of the

nouns into classes or genders ceases to affect these parts of speech, although it may still exist in the language. To render this perfectly clear, I should have to go into the question of the origin of the different parts of speech, and show how their distinction, which is essentially grammatical and by no means logical, was called into being by the rise of pronouns. It would indeed be easy to prove that a noun is that part of a sentence which can be represented by a pronoun, and, in the same manner, the other parts of speech can be distinguished in their true grammatical spheres of action. But these elucidations, which possess an importance of their own, would lead us too far from the main subject of this paper. I will here, therefore, in illustration of what I mean, merely detail the structure of the adjective. This part of speech was in the first instance constituted by the use of pronominal elements which referred it to the noun. Thus in Zulu, *u-MU-ntu o-MU-bi*, "a bad or ugly man," the root *-bi* (whence the adverbs *ka-bi* and *ku-bi*, "badly") is constituted an adjective by having the pronominal element *MU-* (here representative of all personal nouns formed with the derivative prefix *MU-*) attached to it. Instead of this *MU-*, we have to use other pronominal elements, when the adjective is to be referred to nouns formed with different derivative prefixes; as, for instance, we must say *i-SI-tya i-SI-bi*, "an ugly or bad dish;" *i-LI-tyi i-LI-bi*, "an ugly stone." But in every case in ZULU a pronominal element is necessary to connect the adjective with the noun, and truly to constitute such a part of speech. As, however, these pronominal elements, which in the first instance constitute the adjective a part of speech, are particularly liable to decomposition, the tendency is gradually to wear them away, and even to make them entirely disappear. Yet the position which they have given to the adjective as a distinct part of speech remains even where they themselves have ceased to be seen, and no concord any longer connects the adjective with the noun. An example from modern languages will easily illustrate my meaning. In English, the adjective is no longer linked by any apparent concord to the noun. Neither gender nor number is distinguishable in the English adjective; yet it is no less an adjective, and no less considered as belonging to the noun than, for example, the German, French, or Latin adjective, in all of which the concord is still more or less visible; e. g., German *ein schlechter Mann, schlechte Männer, eine schlechte Frau, schlechte Frauen*; French, *un mauvais homme, des mauvais hommes, une mauvaise femme, des mauvaises femmes*; Latin, *vir malus, viri mali, femina mala, feminae malæ*; compared with English, *a bad man, bad men, a bad woman, bad women*. But the English adjectives would not so clearly form a distinct part of speech, if at a previous period they had not been brought by concord into reference with the nouns. The distinction of gender and number as affecting the adjective is, however, quite lost, even in idea, to the grammatical conception of the English language.

12. As with adjectives, so also with other parts of speech. Their distinctness, as such, when once established, either by the accession of certain pronominal elements or of other grammatical particles, or

by both conjointly, is not lost to the language, even when these originally determining elements have themselves become invisible. This falling off of the pronominal elements and the consequent disappearance of the concord between nouns and other parts of speech, is to be remarked in progressive ratio as languages are exposed to change and become modernised. A comparison of a few of the most known European languages will at once prove the truth of this observation. If we take the Latin sentences, *Noster pulcher vir venit, videmus eum*, and *Nostra pulchra mulier venit, videmus eam*, the concord, as far as the gender is concerned, is apparent in the first, second, and last words of each sentence. The corresponding French sentences, *Notre bel homme vient, nous le voyons*, and *Notre belle femme vient, nous la voyons*, do not distinguish the gender in the first word, but in all those others where it is also visible in Latin. In the German, *Unser schöner Mann kommt, wir sehen ihn*, and *Unsere schöne Frau kommt, wir sehen sie*, the concord affects as many parts of speech as in Latin; but in the English sentences, *Our handsome man comes, we see him*, and *Our handsome woman comes, we see her*, only one part of speech (the last word of each sentence) is brought into agreement with the gender of the noun.

13. Leaving the circle of the INDO-EUROPEAN (or ARYAN) languages, we find in some other *Sex-denoting* languages (for example the SEMITIC) that also the forms of the verb are made to accord with the gender of the noun which is its subject.

14. Still more extensive is the reign of concord in the South African BANTU languages. Here, not only adjectives and verbs, as well as all sorts of pronouns, are made to agree with the noun, but even a noun, when used as genitive to another noun, is referred to the latter by some mark of concord.* Thus, in Zulu, *i-SI-tya S-o-M-fazi*, "the dish of the woman," and *u-KU-dhla KW-o-M-fazi*, "the food of the woman," *S-o-m-fazi* and *KW-o-m-fazi*, are both genitive forms of *u-M-fazi*, "woman," made to agree with the class (or gender) of the noun to which they respectively refer. This practice, of extending the concord to the genitive forms, is one of the features which gives the South African Bantu languages the appearance of being everywhere permeated by marks of concord.

15. While, in the previous paragraphs, we assign the gradual disappearance of the signs of concord to the inevitable action of phonetic decay, we must remember that there is another cause which may materially accelerate such a loss. When a language is adopted by a race heterogeneous to those who originally spoke it, it will generally happen that a great number of grammatical niceties are dropped, and that only what is practically most useful and necessary is retained. The poverty of the English language in forms of concord, particularly in contradistinction to that of its German cousin, is certainly, to some extent, to be ascribed to this cause. Nor can it be accidental that where, in the middle of Africa, the nations who speak Prefix-pronominal languages meet together with those using *Sex-denoting*

* A similar construction is also found, in certain cases, in some North African *Sex-denoting* languages, e. g., *Coptic, Hausa*, etc.

tongues, a great number of languages are found which are almost entirely destitute of the characteristic marks of concord peculiar to each of these classes of languages. Here, especially, many of the WEST AFRICAN tongues, which for other reasons we are fully entitled to reckon among the members of the BÂNTU family of languages, have hardly retained a vestige of that grand system of concords which is such a clear mark of common descent in the South African members of this family. In some African languages, this almost entire absence of any marks of concord forms one of the greatest difficulties in assigning to them their proper place in a classification of languages. The *Dinka* language, for example, spoken on the Bahr-el-Abiad or White Nile, offers in this respect particular difficulties; and it will probably require an intimate knowledge of some languages nearly allied to it before we are able properly to define its descent, and even to know whether it came originally from the Prefix-pronominal, or from the Sex-denoting languages, or had quite a different origin. This possibility of an absence of any of the remarkable characteristics of the concord (*i. e.*, the marks of classes or genders of nouns) in languages descended from those in which the concord has pervaded the whole structure, renders it particularly difficult to say whether such languages as, for example, those of the TURANIAN class, have to be considered as belonging to the PRONOMINAL formation of languages.

16. In the preceding remarks we have assumed, as a proven fact, that the system of concord by which one part of a noun was taken to represent the whole, is identical in origin with that of the genders of nouns as found in our languages. It remains now, not indeed to prove this identity—for to do this a short paper such as this would not suffice—but to elucidate how it is possible that a classification which is now purely logical, can have descended from one based upon the accidental meaning of the derivative particles.

The natural history of the African languages furnishes us with ample evidence to trace the different stages of this transition; and all its principal features and reasons lie clear before us. It is only with regard to a few minor points that we are still uncertain as to the manner in which they came into existence.

17. Firstly, the South African BÂNTU languages exhibit a system of concords almost entirely based upon the representation of each noun by a pronoun identical in its origin with the derivative prefix of the noun;—the representative elements of the nouns being in these and other prefix-pronominal languages originally at the beginning of the nouns. All the nouns which are formed with the same derivative prefix, are also, therefore, represented by the same pronominal elements, and have the same forms of concord, which are (as we said) established by the presence of these pronominal elements. Thus the nouns are divided into classes according to the derivative prefixes with which they are formed; the nouns with the same derivative prefix (and consequently with the same sets of pronouns) being in one and the same class. In this grammatical classification there is no intention of any logical division of the nouns. The extent to which

each derivative prefix is used for the formation of nouns, fluctuating as this is in different languages of this family, determines the range of meaning of each class; and this would be at first only exceptionally and almost accidentally coincident with any logical distinction. The only classes which in the Bantu languages clearly distinguish differences observed in nature are the two personal ones, *viz.* the first (*MU-*) and second (*BA-*), which are restricted to nouns of *persons*, the first in the singular, the second in the plural. Yet even here the classification is not wholly coincident with a logical division; for, all nouns of persons are by no means included in these two personal classes.

18. The restriction of these classes to nouns of persons, is probably, in the first instance, due to the meaning inherent in the derivative prefixes with which their nouns were formed; and the first prefix (*MU-*) may, when it was still used as an independent word, have originally possessed the meaning of "person," and the second (*BA-*) that of "people." This is perhaps, upon the whole, the most probable solution, although not a certain one, and, as a mere conjecture, we may add that the latter prefix (*BA-*) may only be a strongly abbreviated form of a reduplication of the first prefix, in its presumed original shape *NGUA* (*vide* § 9).

19. This brings us to a certain logical arrangement which has already affected most classes of nouns in the BANTU languages,—*viz.* that produced by the numerical value of the derivative prefixes. Most of these now have in the Bantu languages a definite numerical value attached to them, either as singular or plural; and each prefix generally corresponds to one other, either as its singular or plural. This is, however, not the case without many exceptions; for, several prefixes of the plural each correspond almost regularly to more than one prefix of the singular, in most Bantu languages,—and there are also prefixes of the singular number which each have two or more prefixes of the plural corresponding to them. One prefix (the 14th *BU-*) which is usually of the singular number, has in the *Otyihereró* language, besides its common abstract singular value, also a plural one, in which it corresponds to the 13th prefix (*KA-*) which is used in this language for the purpose of forming diminutives. This would be equal to our using such a suffix as *-hood* or *-ness* for the purpose of forming the plural of words ending in *-kin*, *e. g.* as if *manhood* were a proper plural for *manikin*. Other prefixes, again, possess no definite numerical value, and neither correspond as singular nor as plural to any other prefix.

Thus the derivative prefixes of the nouns in the South African BANTU languages have not yet arranged themselves in a strict order of correspondence, in which each prefix of the singular is exchanged for one certain other prefix when the plural of the noun formed with the first is to be indicated; but upon the whole there is a tendency towards such a regular arrangement.

20. There are two ways in which, before proper grammatical forms for the indication of the plural of nouns had come into use, this number could be originally distinguished in the language. Firstly,

nouns with a sort of collective meaning would have a kind of plural sense in comparison with the nouns indicating units of the same objects. Thus in our languages such nouns as "army, forest, fleet, people," might be used as a sort of plural for "soldier, tree, ship, person;" but the nouns which could stand in this kind of relation to each other would be few in number. A more regular manner of indicating the plural was the use of the process of reduplication. This primitive mode of forming the plurals of nouns is still in use in the *Bushman* tongue, and in some of the languages spoken in *North America, to the West of the Rocky Mountains*.

21. It is probable that the correspondences of singular and plural prefixes in the South African BANTU languages are originally due to both processes. If we see that the plural prefix *MI-* corresponds to the singular *MU-*, the plural prefix *PI-* corresponds to the singular *K(W)I-*, the plural prefix *TIN-* corresponds to the singular *NI-*, and the plural prefix *TU-* corresponds to the singular *LU-* it is difficult to believe that the plural and singular had no etymological connection with each other. Yet, on the other hand, there is no evidence that any distinct mark of plurality was added to the singular forms. But, taking all the probabilities of phonetic changes into consideration, it is not impossible that in most of these instances the plural prefix was originally, when still used as an independent noun, a mere reduplication of the singular. Now, however, both singular and plural prefixes have the power and position of simple derivative prefixes, and are each used as different representative elements.

22. But one, at least, of the plural prefixes, that of the 6th class (*MA-*), does not admit of the above explanation, and cannot have originated in reduplication. None but this prefix is used to correspond as plural to the 5th (*LI-* or *DI-*) prefix, from which its form is as dissimilar as possible. But it is also occasionally used to form plurals to several other prefixes, either replacing them, or being prefixed to them. In the latter case, however, only the *MA-* is considered as the representative element,—and the forms of concord merely refer to it, and are not affected by the other derivative prefix to which the *MA-* is prefixed. On the whole, it is evident that this prefix had, when used as an independent noun, originally a collective meaning, indicating a mass, a quantity, &c.; and in this sense it is still frequently used as the prefix of nouns which have no singular corresponding to them, particularly of nouns indicating liquids,—for instance, Zulu *a-MA-nzi* "water," *a-MA-futa* "oil, fat, butter," &c. How very ancient this meaning of the prefix *MA-* is, can be seen from the fact that the same (liquid) meaning is still inherent in its use as pronominal element in one member of the OCEANIC section of PREFIX-PRONOMINAL languages, the *Fiji*. (*Vide Comparative gramm. of South African languages*, p. 142 note, pp. 261 & 262.)

23. Also in the HOTTENTOT language, the most primitive of the SEX-DENOTING family, the numerical correspondence of the derivative particles possessing representative power (which are here suffixes) may have been effected in this double manner,—*viz.* by expressing the plural either by the reduplicated form of the singular, or by em-

playing a collective derivative particle, in the place of one of the singular number. The feminine plural suffix *-TI* may well be explained as originating in a reduplication of the feminine singular suffix. Of the latter the present Hottentot form is *-S*; but a comparison of the kindred languages, particularly the Egyptian and Coptic, shows that this *S* is derived from a more ancient *T*. This is a change by no means unfrequent in Hottentot, and even the *t* of the feminine plural suffix, when used as pronominal element, is sometimes changed into *s*. There are some traces also of an *i* as the original vowel termination of the feminine singular suffix. It is also not quite impossible that the common plural suffix (*-IN*) may have originally been a reduplication of the common singular suffix, of which the present form is *-I*,—although the probabilities are against this explanation. With regard to the *Hottentot* language, it is particularly to be taken into consideration that the fewness in number of the derivative particles which can be used in Hottentot as representative elements, renders it probable that a great reduction in their number has taken place; and, therefore, that different suffixes have by homophony been thrown into one class (or gender) with one set of representative elements. This would render it still more difficult to trace the origin of the numerical correspondence of the derivative particles here, than it is in the Bantu languages. But I feel much inclined to say that it seems almost clear that the masculine plural suffix *-KU* cannot in any way be regarded as a reduplication of the masculine singular *-BI*; although the manner in which the second Bantu prefix *BA-* has been brought into probable relationship to the first prefix *MU-* (by means of a presumptive older form of the latter which is *NGUA-*) teaches us not to be too certain in our definitions of impossibilities. At all events, the HOTTENTOT dual suffixes *-KHA* for the masculine, and *-RA* for the feminine, cannot well be considered as originally anything but nouns implying a duality. We will not say that it is impossible that *-KHA* may have been contracted from a combination of a masculine suffix (either of the singular or plural) with the common dual suffix *-RA* (Wuras gives similarly *-S-a-RA*, a combination of the feminine singular with the common dual, as the *!Kora* feminine dual form),—but, for all the purposes of representation, *-KHA* is now a simple derivative suffix.

24. Whatever may be the origin of the numerical correspondence of the derivative particles with representative force in the HOTTENTOT language,—it is more strictly carried through than in the Bantu languages. Each suffix has a decided numerical value, either as singular, plural, or dual, — and corresponds regularly with this meaning to a certain suffix (or suffixes) of a number different from its own. The exceptions to this rule are few,—just sufficient to show that there are exceptions, in which *e. g.* the common plural suffix is used (instead of the masculine plural) as corresponding plural to the masculine singular. Another distinguishing feature of the Hottentot language is the possession of dual derivative particles, which, if they ever existed in the BANTU languages, must have been lost before the South African members of the Bantu family separated from each other; for, no traces of the dual are found in any of these languages.

25. The most peculiar feature, however, in the HOTTENTOT derivative suffixes, is their reference to the distinctions of *sex*. This is in so far the case, that in any noun expressive of a being in which *sex* can be distinguished, the suffix *-P* (originally *-BI*) indicates one male being, the suffix *-KHA* two males, and *-KU* several males; the suffix *-S* one female being, and the suffix *-TI* several females; again, *-I* any being (either male or female), *-RA* two beings (one male and the other female, or both females), and *-IN* several beings (without distinction of sex).

26. Now it seems, at the first glance, very easy to explain this, by supposing that in the first instance, the *-P*, for example, meant "man" or "male," the *-S* "woman," and so on. But we must remember that all the nouns in the HOTTENTOT language must be formed with one or other of the above eight derivative suffixes: and that the greatest number of the nouns of things in which *no sex* can be discovered are included in the so-called masculine and feminine classes. It would be preposterous to suppose that the primitive mind of the Hottentots, or of their ancestors, had imaged to itself everything either as male or female, or could have perceived differences analogous to the distinctions of sex in almost all objects and ideas whatsoever. This would be ascribing to them a poetic faculty of the highest order, such as in the very primitive condition of mankind we have no right to assume.

27. Besides this, when we inquire into the probable etymologies of the HOTTENTOT derivative suffixes of nouns, not one of them seems to have originally any meaning implying sex; and the meanings which the suffixes impart to nouns in which a difference of sex is not discernible, is frequently of so decided a character as to assign to these suffixes a distinct signification which could only with great violence be deduced from any analogy with the distinctions of sex. In many so-called masculine nouns in Hottentot, the suffix *-P* gives a sort of local meaning, etc.

28. There is, however, not the slightest need to assume that these suffixes were originally meant to express distinctions of sex. On the contrary, it is highly probable that the whole relation of the HOTTENTOT classes of nouns to the distinction of sex, arose from the circumstance that the nouns respectively indicating "man" and "woman" had been formed with different derivative particles (suffixes) possessing representative power. If the word for "man" were formed with one suffix (*-P* or *-BI*), and the word indicating "woman" with another (*-S*), then other nouns of each sex would be formed, with the same derivative suffixes, in analogy with these. When thus the majority of nouns indicating male beings were gradually formed with the one suffix in the singular,—this suffix would assume a masculine character; and, by the power of analogy, would be used whenever a single being of the male sex was to be indicated. In the same manner it would be with the so-called feminine singular suffix; and the plural and dual suffixes would have been influenced by their correspondence with those of the singular.

29. Similar processes have been at work in the BÂNTU languages, although they have not yet led to the same logical results as in the

Sex-denoting family, of which the *Hottentot* represents the most primitive known type. The third derivative prefix in the BÂNTU languages, of which the most primitive form that we can ascertain is *MU-*, has evidently originally a mainly local meaning, and is etymologically identical with the directive or preposition *mu-*, "in," which is found in several Bantu languages. This prefix is used in the formation of the common Bantu word for "tree, plant," *MU-ti*, and, in analogy with this noun, the prefix *MU-* has been used for the formation of the greater number of the names of trees and plants. Thus the prefix seems to impart to many of these nouns the meaning of "tree" and "plant," and this class of *MU-* nouns assumes almost the appearance of having special reference to this class of natural objects.

Again, in some BÂNTU languages, especially in *Kafir* and its nearest kindred, the same prefix *MU-* is also used for the formation of names of rivers, and thus in *Kafirland*, *Natal*, and the *Zulu Country*, the greater number of the names of the rivers belong to this third *mu-* class. Yet this must clearly have arisen from the fact that the name for "river" (*Kafir u-M-lambo*, *Setshuâna MO-lapo*, etc.), is formed with this prefix. The proper names of rivers are then, in the first instance, as it were, adjectives to the word for "river,"—and the prefix must really have had in them only the character of a pronominal element which referred these adjectives to the prefix of the noun. But the adjectival expressions having been elevated to the dignity of nouns, the originally pronominal character of the prefix is lost sight of, and it appears now almost to impart the meaning of "river" to these nouns, just as in the previous instance it seemed to give that of "tree" or "plant."

30. Also in the *HOTTENTOT* and other *SEX-DENOTING* languages, the classes (or genders) of nouns frequently exhibit, besides the power of indicating sex, a leaning towards other classes of natural objects,—a circumstance which is expressed in the doggerel verses of *LATIN* Grammars, *e. g.*, in the following German lines :—

"Die Männer, Völker, Flüsse, Wind,
Und Monat' Masculina sind."

It is, I believe, generally taken for granted, that the *Latin* names for *rivers*, *winds*, and *months*, are *masculine*, because, in the first instance, they were respectively adjectives to the masculine nouns, *fluvius*, *ventus*, and *mensis*. Nor can I see any reason to assume that the names of *men* and *nations* were not originally brought into one class in a similar manner.

31. But even were this otherwise, and were the original meaning of some of the derivative suffixes (used as representative elements of the nouns) in the first instance expressive of sex, yet, in this case, the formation with the same derivative suffixes of such a mass of other nouns in which *no* sex can be distinguished, could only be explained by the fact that two or more originally different derivative suffixes had (by euphonic changes) become homophonous, and had thus been combined into one. In any case, therefore, the presence of nouns in which *no* distinction of sex is observable, in the same

classes together with those nouns in which the class (or gender) determines the sex, is not to be accounted for by an original poetic faculty, whereby characteristics of sex were imagined to exist in everything. The German "table" (*der Tisch*) is not a masculine noun, nor is "bottle" (*die Flasche*) a feminine, because there is anything manly in the former, or womanly in the latter; but merely because the different grammatical classes (or genders) to which these words respectively belong have been brought into a certain reference to the distinctions of sex as observed in nature.

32. When, however, the sex-denoting idea had once attached itself in some way to the classes (or genders) of nouns, its shadow would also fall upon those other nouns in which no distinction of sex is naturally discoverable, but which were contained in the same classes together with the nouns in which the class (or gender) indicated the sex. In analogy with the latter, it was natural that the mind should begin to imagine that inanimate nature also was possessed of those instincts which exert so powerful an influence over the life of the more highly organised beings, and which especially shape the relations of human beings to each other. Thus the sex-denoting character of the classes of the nouns became the most powerful agent for the personification of all impersonal objects; and to the nations speaking such sex-denoting languages, the whole world would be gradually filled with beings which assumed to their minds some mysterious human-like relations towards each other. The poetic faculty, hereby engendered, was in the first instance the source of fables and myths, and through the myths, and the religious conceptions thereupon based, it exerted the most intense influence upon the sex-denoting nations, who were thereby lifted from the primitive ancestor-worship to a conception of abstract objects of worship, which led them to a theology ever more and more ideal. It awakened interest, also, in all the objects of nature, and incited the mind to a study of their relations to each other; and thus proved the greatest stimulus which the study of science could have had, before the mind had become aware of the real importance of scientific inquiries, or of the magnificent results to which they lead. Thus poetry, theology, philosophy, and all branches of science have been, if not called into existence, at least very strongly stimulated by this structural peculiarity of the language. (*Vide my "Preface" to the treatise On the Origin of Language.*) All nations who have made themselves in any way conspicuous in the exercise of these higher faculties of humanity either speak, or used to speak, SEX-DENOTING languages. We need only mention the names of such nations as the *Egyptians, Babylonians, Phoenicians, Arabs, Indians, Medes, Greeks, Romans, Teutons*, with all their kindred. The languages of all of these belong to the SEX-DENOTING family. The only apparent exceptions are perhaps the *Chinese and Japanese*. But how far they are real exceptions I am unable to say; particularly as we do not as yet know for certain whether their languages may not have descended from sex-denoting mother tongues. One, at all events, of the members of the SEX-DENOTING family—the *KHASI* (spoken in the Cassia mountains of Lower Assam)—has very Chinese-like features.

33. But the deficiencies of Chinese civilisation, and their national faults of character (apparently arising from a want of the higher imaginative faculty) are to us a new proof how much men need that poetic stimulus which the ancient structure of our languages has given to our minds. The thirst for science must already very strongly have seized upon the spirit of a nation when it can do well without that lever which the *sex-denoting* form of language affords to the mind. The more logical arrangement which some Northern TEUTONIC nations (particularly the *English*) have adopted, by removing all nouns in which *sex* cannot be distinguished from the masculine and feminine classes (or genders), has its undoubted advantages. But it is, perhaps, well that these nations are in continually increasing intercourse with others, whose languages still supply them (by the almost enforced personification of all objects) with an involuntary mental stimulus, which, although it may frequently lead them into dreamland, as often raises them to higher conceptions.

34. I have here assumed as a fact that the languages of the most civilised nations of the world have derived their *sex-denoting* character from the same source as the HOTTENTOT language. The proofs hereof lie in the original identity of their *sex-denoting* determinatives, i. e., their signs of gender, which occur either as terminations of the nouns, or as pronominal elements. A rapid glance at a few of the most prominent points of comparison will probably be welcome.

35. Now, it is first to be noticed, that the *common singular* gender has apparently disappeared in all known SEX-DENOTING languages, excepting in *Hottentot* and *Khasi*. Other reductions, of various kinds, in the number of the genders (or classes) have also taken place in the different *sex-denoting* languages.

36. Thus the COPTIC language possesses only three genders (or classes), viz., masculine singular, feminine singular, and common plural. In the *singular* the nouns of this language have almost lost all terminations indicative of the gender (or class); although, in ancient EGYPTIAN, *-T* was still generally the termination of nouns in the *feminine singular*. As pronominal elements of this gender, we find in COPTIC *T*, *TH*, and *-S*. We identify these with the HOTTENTOT *-S* or *-SI* of the same gender, as easily as we identify the COPTIC pronominal elements of the *masculine singular* *P*, *PH*, and *-F*, with the Hottentot *-P*, *-B*, and *-BI*.

37. The most usual termination for the *plural* of nouns in COPTIC (of still more frequent occurrence in old EGYPTIAN) is *-U*. This occurs also as one of the forms of the COPTIC pronominal elements for the *common plural* used only in certain positions, whilst in other positions the forms *SE* (used only as subjective pronoun of the present tense and of the first future in the Memphitic and Thebaic dialects, and for the subjunctive in the Thebaic) and *N* (in demonstrative pronouns and as article) take its place. It appears to me probable that three originally distinct pronominal elements are here used (in certain definite positions) for the one *common plural* gender, and that the COPTIC *U* corresponds to HOTTENTOT *-KU* (masc. plural), COPTIC *SE* to HOTTENTOT *-TI* (fem. pl.), and COPTIC *N* to HOTTENTOT *-N* (common plural).

38. The *dual* does not exist in the COPTIC language; and I may as well remark here that the SEMITIC and ARYAN *dual* forms seem to be mainly somewhat elongated plural forms. It is not impossible that this elongation is in the first instance due to an infixed *-A-*, as representative of one or both of the Hottentot dual terminations *-RA* (dual comm.) and *-KHA* (dual masc.)

39. The SEMITIC languages have retained the masculine plural and feminine plural as distinct genders (or classes). The common plural gender (or class) is, however, extinct, as such, in the Semitic languages, but its forms have been used to distinguish the plural of the two sex-denoting genders. This help was the more wanted, as in the Semitic languages the singular and plural forms of the determinatives of each gender had frequently become homophonous.

40. The homophony is, in this instance, caused by the mollification of the sign of the *masculine singular*, which from the harder linguals *P* (Hottentot and Egyptian), *PH* (Coptic), *B* (Hottentot), and *F* (Coptic), has been liquefied in SEMITIC into *-W*, *-Ū*, and *-Ō*. The forms of this gender (the *masculine singular*) have hereby become similar to, and sometimes even homophonous with, those of the original *masculine plural*, the termination of which, in Semitic, has become *U* (as in Coptic), from the more ancient form *-KU*, as preserved in Hottentot. This *masculine plural* termination is now, however, only used to indicate the subject of the verb, and it has retained, in this position, the exclusive *masculine* meaning in all the older Semitic dialects, viz. *Ethiopic*, *Arabic*, and *Aramaic*,—whilst the more modern dialects (such as *Hebrew* and *Amharic*) have extended the use of this plural termination, in the perfect tense, over both genders. But this is evidently a comparatively modern innovation, although older than the language of the Old Testament.

41. The *masculine singular* termination has disappeared in the SEMITIC languages, at the end of the nouns, and also where it must formerly have stood to indicate the subject of the verb, in the perfect tense. The soft nature of this termination is a sufficient explanation for this circumstance. It is now mainly visible in the Semitic dialects merely in emphatic pronouns and as possessive and objective suffix.

42. The stronger character of the termination of the *feminine singular* (which is *-TH*, *-ATH*, *-ĀTH*, or *Ā* in the SEMITIC languages) has caused it to be more frequently preserved than that of the masculine singular. Its identity with the terminations of the same gender in Hottentot (*-S*) and Coptic (*-T*, *-TH*, and *-S*) is as unquestionable as that of the SEMITIC *feminine plural* (*-ĀTH*, *-ŌTH*, and *Ā*) with the same Hottentot termination *-TI*.

43. The evident similarity between the *singular* and *plural* forms of the two genders (or classes) in the SEMITIC dialects, explains to us how it arose that the pronominal elements, when used as *prefixes*, have in these languages only one form for each gender, which must

serve both for singular and plural. This is *TH*- for the *feminine*, and *Y*- for the *masculine*,—the latter being undoubtedly a palatalised *W*, in which semi-vowel both the singular plural and the *masculine* signs of gender would have combined. In order, however, that the number may be seen, the Semitic languages have, in addition to the above prefixes indicative of gender, used at the end of the verb, certain distinguishing marks for the plural number.

44. Also in the SEMITIC *suffizes* the *plural* is frequently not sufficiently distinct from the singular, and, on this account, the Semitic languages seem to have made use of the common plural termination, and to have superadded to it that of the masculine or feminine, either of which is then, however, elided. But the masculine and feminine signs of gender have respectively left their impress upon the nasal of the common plural termination, and the labial of the *masculine* is still visible in the *-M* which is now used as pronominal element for the *masculine plural*. Similarly, the dental nasal *-N*, as the present pronominal element of the *feminine plural*, is in conformity with the dental consonant (*-TH*, etc.) by which the *feminine* is generally indicated. The nasal here is evidently identical with the HOTTENTOT *-N* of the *common plural*, which we have also seen in the COPTIC language. It is, again, evidently identical with the

ending of *masculine plural* nouns in the SEMITIC dialects, *-ÂN* (*Ethiopic*), *-ÛN* (*Arabic*), *-ÎN* (*Arabic & Aramaic*), or *-ÎM* (*Hebrew*). It is not improbable that here, also, the *common plural* termination may have originally been superadded to that of the *masculine plural*, although the latter, in some of these terminations, has not even left a trace of its presence.

45. That we are right in our explanations of the Semitic plural terminations, is most clearly proved by comparison of a language, which although it is not one of the Semitic dialects, yet evidently stands in a nearer relation to them than the Egyptian or the Indo-European (or Aryan) languages do. In the BERBER or TEMASHIRT the homophony between the original *singular* and *plural* signs of each gender has rendered them so wholly insufficient to indicate the number, that the original *common plural* sign has been everywhere superadded to them; and we can still see here, in actual combination, the signs of the masculine and particularly of the feminine gender with that of the common plural.

Thus we find, besides plurals of nouns ending in the different forms of the *common plural* (*-N*, *-EN*, *-IN*, *-AN*, *-A*, and *-A-*), also those in which the *masculine* *-U* or *-W* precedes this termination (as *-U-EN*, *-U-N*, *-U-AN*, or *-A-U-N*), and others in which the same is the case with regard to the feminine *-Ø** (as *-Ø-EN*, *-A-Ø IN*, etc.). Still more striking are the *plurals* of the pronominal elements. Here the *masculine* form has indeed lost the sign of gender, nor has it even changed the nasal (*-N*) of the common plural to *-M*, as in *Semitic*;

* *Ø* is, according to Lepsius' *Standard Alphabet*, to be pronounced like English *th* in "think."

but the feminine has retained the *feminine -T* after the *-N*; and thus *-NT* as *feminine plural* termination in BERBER proves the way in which the SEMITIC *-M* and *-N* have respectively become *masculine* and *feminine plural* terminations.

46. In BERBER, as in Semitic, the *masculine* terminations of nouns and adjectives, and the same when indicating the subject of the verb in the perfect tense, have disappeared, whilst the *feminine* ones (*-θ*, *-T*, *-S*, *-A*) have usually retained their place. The sign of the *masculine* gender occurs in BERBER as pronominal element mainly in a prefixed manner, and has then the forms *W-*, *U-*, *Y-*, and *I-*. In the *Kabyle* dialect we have particularly to remark the hardening of this pronominal element, when used as an article after the nasal of the *prefixed genitive particle*. The latter (the *genitive particle*) usually has in KABYLE the forms *n-*, *ne-*, *en-*, *in-*, or *a*, and in other Berber dialects the forms *an-* and *na-*, in Hottentot *ā-* (i. e. nasalised *a-*), in Hausa, Egyptian, and Coptic *n-*, and in Ethiopic *a-*. But before the *masculine* article, which is generally hardened by the influence of the originally preceding nasal of this *genitive particle*, the latter itself is dropped, and thus *BU-*, *GI-*, and *I-* appear as *genitive* forms of the prefixed *masculine* article, by the side of the *feminine ne-T-*, or *en-T-*.

47. Allowing for the homophony of the singular and plural marks of gender in BERBER, their original identity with those of the sex-denoting languages already referred to, requires no proof. Nor is it difficult to see that also in the other sex-denoting languages of Northern Africa (e.g., the HAUSA, the GALLA, or ORMA and its kindred), the very same signs of gender recur that have been noted here. But it would only tire you if I entered upon them in detail. I will, therefore, merely say that it is not quite clear that GALLA, for instance, can claim as near a relationship to the *Semitic* dialects, as we vindicated in the case of *Berber*. In GALLA the signs of gender have mostly been worn away; and that of the *masculine singular* does not appear anywhere. The *feminine singular* termination *-TI* or *-T* has, besides, a *collective* meaning, which renders it liable to be also used when the *plural* is to be indicated. It is, therefore, probable that the original *feminine singular* and *feminine plural* classes are now both represented by this one termination, although, at the same time, we must not forget that even in the HOTTENTOT language the *feminine singular* has sometimes a *collective* meaning, so that in the *Nama* dialect, for instance, *gu-S* may mean either simply "a ewe", or "a flock of sheep". In the pronominal elements which, in GALLA, form the terminations of the verb, a *common plural* gender only exists, which has, however, two perfectly distinct forms, one in *-U* (originally evidently a *masculine plural*=Hottentot *-KU*, Semitic *-U*, etc.), and one in *-ani*. The latter is clearly the original *common plural* termination (Hottentot *-IN*, etc.) in a fuller and probably more original form. In this use of the signs of originally different plural classes for one common plural, the GALLA agrees with the *Coptic*.

48. The position of the original signs determining the gender of the nouns in the INDO-EUROPEAN (or ARYAN) languages was between the base and the case-terminations. Here they had to bear the

pressure of both, and could combine with either, or be entirely suppressed. It is, therefore, not surprising that, even where they have still remained visible, they have not been recognised by those who only compared the Indo-European (or Aryan) languages with each other. Here the mere Indo-European scholar is in the same position as the classical grammarian who, before his eyes were opened by the comparison of the other Aryan languages, attempted to obtain a clear idea of the systems of conjugation or declination in Greek and Latin. Yet, when the light of comparative Indo-European grammar had once brought order into the apparent chaos of irregularities and exceptions which the Latin and Greek grammars seemed until then to offer, it was not difficult to show, even from the facts brought forward by the old classical grammarians, how fully the views established from a comparative standpoint were borne out. Although, therefore, our perception of the original signs of gender in the Aryan languages is gained by a comparison of those of the other sex-denoting languages,—yet, the proofs in support of our theory have been mainly furnished by the very grammarians who themselves stoutly maintain that the Indo-European languages are autogenous, and are not akin to the Semitic or any other circle of languages, and who even go so far as gravely to state that they clearly perceive that in an older period of the Indo-European original language (“Ursprache”) the gender was without any indication, and that it was only distinguished in the nouns by secondary means and in the course of time. (Schleicher’s *Compendium der Vergl. Gramm. der Indogermanischen Sprachen*, p. 417.)

49. In discussing the question of the origin of gender in the ARYAN languages, the mind has first to disembarass itself of the very common opinion that the original signs of gender have anything to do with such terminations as English *-ess*, or German *-inn*, etc., by which the female sex is distinguished in certain nouns of persons. The secondary origin of these terminations is quite clear. They have nothing to do with those primary signs at first indicative of the classes or genders into which all nouns were divided.

50. Firstly, it is to be remarked that the ARYAN languages, in their oldest recorded forms, seem to differ from the neighbouring languages especially in this—that the *plural* of the nouns is *not* indicated by any particular sign intercalated between the base and the case-terminations, but is made perceptible by the use of different case-terminations, or by particles affixed to them. This proves to us that, as regards the sign of gender in the ARYAN languages (which, as we said, must be sought between the base and the case-terminations), the two numbers, *singular* and *plural*, must already have *coalesced*, just as we have seen to be the case in *Berber*, and even sometimes in the *Semitic* dialects.

In the case of a common origin of the ARYAN and the other sex-denoting languages, it would, therefore, be most probable that the ARYAN marks of gender would be found to have forms similar to those of the languages in which such combinations of the two numbers of each gender were most readily effected. This directs us mainly to a comparison with the *BERBER* and *SEMITIC* languages; and *primâ*

faciè we may assume that the ARYAN signs of gender are not unlike those met with in these languages.

51. Here it must first be remarked that in SANSKRIT, GOTHIC, and LATIN very few nouns with bases ending in *-U* are *feminine*, and that in SLAVONIC (and I believe also in LITHUANIAN) they are *all masculine*. Although in some of these nouns the *-U* may really belong to the base (as it must do in the case of the few *feminines*), yet, in some we may surely consider the ending *-U* as the original mark of the *masculine* gender. It is further to be noted that in LITHUANIAN (which is well-known to be, in some respects, the most ancient Aryan language, although a still living one) *all masculine* nouns have in the dative singular the case-termination *-U-i*, in the instrumental sing. *-Û*, in the nominative, accusative, and vocative dual *-U*, in the accusative plural *-Û-s*, and in the locative plural *-Û-se*, whilst the *feminine* nouns in *none* of these cases show a *-u*. It is true that the Sanskritists explain this *-u* as derived from a former *-a*; but it is certainly extremely remarkable that the LITHUANIAN *masculine* case-terminations should shew such a predilection for that vowel which, in the case of a common descent of the Aryan and the remaining sex-denoting languages must have been the original ARYAN sign of the *masculine* gender. And, if this be so, it also explains, at once, why in OLD HIGH GERMAN the instrumental singular can only be formed from *masculine* (and *neuter**) nouns; for, its termination *U-* contains nothing but the sign of the *masculine* gender, after which (just as in the same case in Lithuanian) the case-termination has been elided.

52. We further perceive the mark of the *masculine* gender in the intercalary *-V-* (*-OV-* or *-EV-*) which intervenes between the case-terminations and the bases, in Slavonic nouns; but which is, in all Slavonic dialects, only met with in the *masculine* gender.† The predilection for consonants in the Slavonic languages probably explains why they have here a labial consonant in place of the vowel which is the common mark of the *masculine* gender in the other ancient Aryan languages.

53. Having thus (as we believe) discerned the *U-* (or *V-*) as ARYAN determinative of the *masculine* gender,—identical with BERBER *W*, SEMITIC *-W*, *-Û*, *-Ô* (masc. sing.), and *-Û* (masc. pl.), COPTIC *-F*, *P*, or *PH* (masc. sing.), and *U* (comm. pl.), and HOTTENTOT *-P*, *-B* (masc. sing.), and *-KU* (masc. pl.),—we expect to be able to find similarly clear traces of the usually more tenacious mark of the *feminine* gender.

54. Here it has already been remarked by Schleicher (*Compendium*, p. 419) that the abstract bases of nouns in *-TI* belonged almost exclusively to the *feminine* gender, in the older periods of the ARYAN

* The *neuter* is, at first, in the ARYAN languages, a mere variation of the *masculine* gender. (Vide below, § 58.)

† Vide Schleicher "Ueber *V (-OV-EV-)* vor den Casus-Endungen im Slavischen." In "Februar-Heft," 1852, der "Sitzungs-berichte der philos.-histor. Classe der Kais. Akademie der Wissenschaften."

original languages. His explanation, that this fact is connected with the function of such nouns, is, I confess, not clear to me. But, however this may be,—is it, for instance, possible to regard it as a mere coincidence that in LATIN all derivatives ending in *-t-U* should be *masculine*, and those in *-t-AT* (Greek *-τ-ητ*) *feminine*? Let us take, for example, two such nouns as *æstus*, “the heat”, and *æstas*, “the summer”, of which the respective bases are *æs-t-U* and *æs-t-AT*,—why is the first a *masculine*, and the second a *feminine*? For no other reason, we answer, but because the *-U* ending the base of the first is that sign with which, in the ARYAN languages, *masculine* bases of nouns were originally formed, whilst *feminine* bases were indicated by a termination of which *-AT* is one of the fullest forms, identical with SEMITIC *-TH*, *-ATH*, *-ÂTH*, *-Â* of the *feminine* singular, and *-ÂTH*, *-ÔTH*, *-Â* of the *feminine* plural, with COPTIC *TH*, *T* and *-S* of the *feminine* singular (and, perhaps, *SE* of the plural), and with HOTTENTOT *-S* or *-SI* of the *feminine* singular, and *-TI* of the *feminine* plural.

55. The same terminations of the bases also distinguish the gender in GOTHIC *mag-U-s** (the Celtic *Mac*), “a boy,” and *mag-ATH-s*, “a virgin.” The latter noun is identical with German *Magd* and our *maid*: and thus in the ending consonant *-D* of these two modern nouns, the original distinctive mark of the gender has been still preserved.

56. The change of the original tenuis into a media, which we observe in these last-named nouns, is, however, as Bopp has shewn, very frequent in GREEK and LATIN. We believe, therefore, that we are right in assuming that the *T* of the *feminine* mark of gender will also sometimes have undergone, in these languages, the change into *D*. In this case, it is clear that it is not without reason that the bases of so many *feminine* nouns in GREEK end in *-a-δ* and *-i-δ*; and one is no longer obliged to believe with Bopp (*Comp. Grammar*, §. 119 and 126) that the *δ* is herein superfluously added. To give an example, the GREEK *feminine* *μῆτι-δ* (nomin. *μῆτι-s*) “wrath” (in which, however, the determinative *δ* of the gender is frequently dropped) appears to differ from the SANSKRIT *masculine* *many-u* “wrath, etc.,” only by its different sign of gender. Similarly, the LATIN *feminine* base *pecu-D* (nom. *pecu-s*), “a sheep, a head of cattle, &c.,” is distinguished from the *masculine* and *neuter* *pecu* (Sanskrit *paçu*, Gothic *faihu*, German *Vieh*), “cattle.”

57. We have already stated that the position of the marks of gender is, in the ARYAN languages, between the case-termination and the base of the noun; but we have now to add, that certain particles are sometimes interposed between the marks of gender and the case-terminations. One of the most common of these additional particles is an *-a*, which seems originally to have had the value of a relative particle, and is, as such, already met with in *Hottentot* (*Compar.*

* From the *masculine* base *magu*, the Gothic *feminine* *mav-i-s*, “a girl,” seems to be derived by a secondary sign of gender.

Gramm. of S. Afr. Lang., §. 548 and 549). This particle combines, in the ARYAN languages, with the marks of gender. When affixed to the ARYAN original sign of the *feminine* gender, *-AT-* or *-ATI-*, this *-a* is contracted with it to *-Ā*; whilst the masculine *-U-* (or *-V-*) is either simply suppressed before the *-a* (as always in SANSKRIT and GOTHIC, and occasionally in GREEK and LATIN),—or it is, by the influence of the *-a*, changed into *-O-*, after which the *-a* itself disappears. The latter (the transmutation into *-O-*) is generally met with in GREEK and LATIN. This is to me the most probable explanation of the base-terminations of the nouns belonging to the so-called first and second declensions. In very few of the nouns of these declensions (or of those of the so-called *-a* bases), can the *-a* have been radical. There are many bases of nouns which are declined, either with or without this intercalated *-a*; and I think that in some, at least, of these the original force of the *-a* can still be felt. That it is particularly common with adjectives, is perfectly in keeping with our explanation. It is remarkable how the distinctive use of the *-a* is still perceptible in LATIN, even in the declination of foreign nouns in *-es*,—for instance, *Heraclicid-es*, which, as the proper name of a person, is declined without the *-a* (gen. *Heraclicid-is*, etc.), but which when it designates merely the offspring of Heracles takes the *-a*, as *Heraclicid-a-e*, gen. from *Heraclicid-es* or *Heraclicid-a*.

58. The ARYAN are distinguished from those other sex-denoting languages which we have already mentioned by the possession of a *neuter* gender. This seems in the first instance to have been merely a variation of the *masculine* gender. Part of the nouns of this gender appear to have been, by means of different terminations in the nominative and vocative (and sometimes also in the accusative), formed into a separate class. The actual mode of proceeding by which this new gender was acquired has not yet been clearly ascertained; but I think that we may learn something with regard to this from the manner in which; in comparatively modern times, the DANISH language has formed a second *neuter* gender, to which it has transferred all those nouns which were in the *masculine* and *feminine* genders, but in which no sex could be distinguished. Nor must we forget that the DRAVIDIAN languages (spoken mainly in the south of India) possess a *neuter* gender, which has here at least as wide a range as in the most logically arranged of the ARYAN languages—*i. e.*, the *English*. The distinctive marks of the *neuter* gender in the DRAVIDIAN languages even agree with those of our own languages, to so great an extent, that it does not appear probable that these two circles of languages (which are the only ones known to possess this kind of threefold gender, *i. e.*, masculine, feminine, and neuter) should have developed the *neuter* gender quite independently of each other. The DRAVIDIAN languages, however, have not as yet been proved to belong to our own SEX-DENOTING family of languages; and although it is not impossible that they may be shown ultimately to constitute a member of this family, yet it may also be that at the time of the formation of the ARYAN languages, a DRAVIDIAN in-

fluence was exerted upon them, to which this, among other similarities, is due.

59. The ARYAN *neuter* gender has evidently *no* connection with the *common singular* of the HOTTENTOT and KHASI, of which the sign is *-I*. But it is not improbable that the termination of the *nominative* (accusative and vocative) *plural* of the ARYAN *neuter* gender is originally identically with the HOTTENTOT *common plural* termination *-IN*, of which a fuller, and probably a more original, form occurs as pronominal element in GALLA, *viz.*, *-ANI*. A form like this would alone explain how it came to pass that in common SANSKRIT the *nomin.* (accus. and voc.) *plural* of *neuter* nouns ended in *-NI* (dual

in *-NĪ*, and in the same case in the VEDA dialect in *-Ā*, and in other ARYAN languages (*Greek, Latin, Gothic*) in *-A*. Whilst in the latter instances we must suppose that the ending syllable *-NI* was thrown off, in common SANSKRIT the initial vowel of the termination *-ANI* seems to have disappeared. That the *n* does originally belong to this affix, is proved by the occurrence of this nasal in consonantal bases as an infix. The *common plural* meaning, which in this case the ARYAN *neuter plural* gender must primarily have had, is still, to some extent, preserved in the GOTHIC language. (*Vide* V. D. Gabelentz et Loebe, *Grammatica*, § 191, I. 1; § 208, 3; § 209, 4, 6.)

60. The declination of adjectives and pronouns at the earliest period of the ARYAN languages was mainly the same as that of the nouns, and the marks of gender were also the same, although they had in the adjectives and pronouns merely the character of pronominal elements. The evidences of this identity are still clear, although, of course, the original marks of gender, here, as well as in the nouns, have frequently entirely disappeared. The repetition of the case-terminations which the concord in the Aryan languages frequently requires, is not without parallel in some other Pronominal languages.

61. The ARYAN differ from the other Sex-denoting languages, in *not* making the form of the verb to indicate in any way the gender of its subject. All that the concord requires from the Aryan verb, is a distinction of the numbers and persons. In the third person (and we can here only concern ourselves with the third person) the most ancient termination for the singular seems to be *-TI* and for the plural *-NTI*. It appears to me probable that the *-TI*, common to both endings, is a particle which had originally nothing to do with either indicating the person or marking the concord, but which had some other use, most likely that of an auxiliary verb, and which may even be identical with the Hottentot verb *di* "to do." What confirms me in this view is that we also find occasional traces of this ARYAN verbal particle *-TI* or *-T* in the terminations of other persons. In fact, I am inclined to ascribe to it originally a most extensive use in the formation of the primitive Aryan verb. In this case, the *-N* distinguishing the *plural* from the *singular* can only have been the pronominal element of the *common plural*, which alone has been able to retain its ground before this verbal particle *-TI*; whilst the other signs of gender, the

masculine *-U-* and the feminine *-T-* (or *-ATI-*) would naturally be obliterated in their position between the base of the verb and the affixed verbal particle. Thus the distinction of the gender in the terminations of the verb would be lost in the ARYAN languages, although it probably existed in them at first, as well as the distinction of persons in the plural, which latter is now, for example, in English no longer marked by different terminations.

62. In these researches into the origin of gender and concord in our own languages, it must be remembered that we had to enter upon a hitherto untrodden path. Aware how shifting is in many ways the nature of the ground on which we had to tread, we tried only to choose what appeared to promise the most solid footing. Yet it may be that in more than one instance we have made a wrong step. There may be details of explanations and identifications which further research will prove to be erroneous. But the great principles which underlie the structure of the PRONOMINAL languages are too plainly visible to be misunderstood; and with regard to our own languages (the ARYAN or INDO-EUROPEAN) the following laws may be considered as fully established:—

[1]. The classes or genders in the SEX-DENOTING (as well as in other Pronominal) languages originally depended, not upon the meaning of the nouns, but upon their representative particles, which were here (*i. e.*, in the Sex-denoting languages), primarily at the end of the nouns.

[2]. These classes (or genders) were from an originally large number, gradually reduced, until in the ARYAN languages they were mainly two,—one with the representative element *-U*, which, as including all nouns indicating male objects, is called the *masculine* class, and the other, with the representative element *-ATI*, which is, for a similar reason, named the *feminine* class (or gender). The *neuter* class appears to be a later development, into which, however, an original common plural gender (with the termination *-ANI*) may have been incorporated.

[3]. To these endings indicative of the gender, the case-terminations were affixed,—and, through the pressure of the latter, the original marks of gender have frequently been obscured, or suppressed, even in the most primitive of the known ARYAN languages.

[4.] The concord was, in the first instance, everywhere due to the presence of these representative elements of the nouns in their pronominal character. It is they which really bound the adjective to its noun; it is they which primarily constitute the very essence of all our true pronouns, although the weight of the elements (demonstrative, relative, and other particles) with which they have been combined, has frequently rendered them invisible. Wherever any sort of concord makes other parts of speech accord with the noun, it is they which are the real original factors of such a concord; and although they are almost entirely lost to sight in some of our modern languages, the very essence of our grammatical structure is due to them.

63. While endeavouring to account for the transformations by which systems like those of the most advanced languages (with their

almost logical arrangements) have descended from such systems as are still to a great extent preserved by some of the most primitive tongues,—I have only been able to glance briefly at the proofs by which my explanations are established. There are, besides, numerous important points, incidental to these questions, which have not even been touched upon. For example, the distinction of gender in the so-called pronouns of the first and second persons, which is found in many Sex-denoting languages, has not been so much as alluded to. Its explanation is perfectly clear; but it would be impossible to do it justice in two or three words. Nor have I been able to point out the relation in which the KHASI stands to the other SEX-DENOTING languages; nor even to allude to those sex-denoting languages in different parts of the world (especially in *South America*) which have *not yet* been proved to be members of our own great SEX-DENOTING family. In fact, the subject of this pronominal representation is one which affects the innermost life of the language, and upon its various modifications, as traced in different languages, it appears that the natural system for the classification of languages must mainly be based.

DISCUSSION.

Mr. HYDE CLARKE said it would be exceedingly undesirable that a paper of such importance should pass without comment. It is, indeed, the misfortune of contributions, which develop facts altogether new, and not known to the general world, that they often escape notice at the time, and not meeting with discussion are for a while relegated to oblivion. He bore testimony to Dr. Bleek's labours, from having entered on the same ground of observation and research, but by a different path, and he had prepared to lay them before the Society last session. Dr. Bleek's discoveries, however, were applied to topics of Semitic and Indo-European grammar, with a completeness and detail far beyond anything he had proposed. He considered Dr. Bleek's paper as a true contribution to what may be called Universal, or Universal Comparative Grammar. Indo-European comparative grammar had little relation to this; indeed, to some extent, it rests on a false assumption if treated as being the general grammar, because what has been denominated Turanian, is the general grammar in the nature of things. Indo-European and Semitic being a development from this, must necessarily belong to the exceptional conditions, and do not, unless casually, furnish the general laws of universal grammar. The portion of Dr. Bleek's paper that he should at this moment point out as the most salient is the determination of the distinctive particles found in Caffre, and which he had partly traced in the Semitic. He (Mr. Clarke) embraced in the Semitic the North African, or Sub-Semitic languages. He would add to Dr. Bleek's series, the vast Tibetan group, the more particularly as exemplified by the Georgian, and also the Malay, which would give very valuable evidence as to the nature of the particles not yet sufficiently disclosed by the Caffre. The chief particles enumerated by Dr. Bleek are M, B, S, T, R, L, N, K. These will also be found to be the chief for-

mative particles in the Palæogeorgian language, and discernible likewise in the existing Georgian languages. As to their ancient influence, evidence would be found in the Indo-European family, and a popular exemplification could be found in English, sufficient to be understood by the casual student.* Many observations had been published on these letters, and he (Mr. Clarke) had given some, as to S and T, in his *Handbook of Comparative Philology*, 1858; but Dr. Bleek carried the matter a step further, because the true relations cannot be ascertained in Indo-European. There is still, however, much to be done, and it is under such circumstances he withheld his assent from some of the conclusions of Dr. Bleek. He was not assured that "Sex-denotation" is of so much importance as Dr. Bleek affirms. Even with regard to sex, it was quite possible that the sun or moon, in one pair or combination might be male, and in another female, but not strictly in the relation of sex, but as denoting the larger or smaller number of a pair. The dual arrangements would be in most cases sexual only in a secondary sense. He was not either prepared to concur in the allusion that mythology arose in a later age from sex-denoting particles. The particles which are not necessarily sex-denoting, but class-denoting, must have existed from the beginning of language. The study and extension of Dr. Bleek's researches must have extensive influence. It points particularly to a modification in the application of Grimm's Law, which is not so wide as supposed. The knowledge of languages in a truly ancient state as existing at the present day, will be found to be of much more value for comparative grammar than artificially cultivated languages of old date, like the Sanskrit. He would note, with regard to the inferences drawn from the Australian languages, in their calculations by two or four, that most of them are erroneous. Reckoning by one hand of five is not the most ancient or natural way, but a later mode. The oldest method was by four, very likely from the paws and claws of beasts, the hand of five appearing later as a numeral more or less interfering and mixed up with the numeral four. It is a question whether our own language does not show evidence of the quaternary numeration of *two* and *four*, which are closely related as *duo* and *quatuor*, and in the same conditions as some Australian numerals.

* If the primary roots in English are taken and dissected, leaving minute questions of derivations aside, they will be found to run on particular letters, and these chiefly the Caffre and Georgian letters:—

Mother, man, mouth, moon, month, morn, mist, mare, mouse, maw, meer, milk. Father, flat, finger, fish, fowl, fin, fly, flea, fire, foot, first, four, five, fox. Bull, brother, breast, blood, breath, bat, bee, beam, bear, brook, bourne, bow, bough, buck, bran, bird, bug, beetle, blade. Woman, womb, weam, wife, water, well, waist, wing, wood, weed, wool, wheel, wind. Son, sun, sister, sow, shin, sheep, soul, sea, star, spray, spawn, spat, spit, sky, shore, spring, sand, stick, stock, stalk, string, stone, skull, scale, shell, saw, snake, snow, skin, steer, straw, seed, stream. Tooth, tongue, toe, thumb, throat, thigh, daughter, dog, two, three, tun, tear, thou, thread, thirl, drill, tail, thorn, thong, tree, deer, drug, doe, day, dawn, dew, dung, (tree, three, star, thread, hair, deer, stream.) Ram, rain, arm, ear, rib, rat, reed, rush, root, ridge, ring, rind, rill, rim. Lip, leaf, leg, land, light, lamb, louse. Neck, nail, night, nine, nut, nit. Knee, knuckle, knife, egg, eye, I, eight, cow, coat, cat, kid, cloud, gnat, grass, claw, knot. Hand, hair, head, heart, hock, heel, ham, hide, horse, hog, hare, horn, house, hound, heat, hill.

DECEMBER 13TH, 1870.

PROFESSOR HUXLEY, LL.D., F.R.S., PRESIDENT, IN THE CHAIR.

The minutes of the last meeting were read and confirmed.

The following new Fellow was announced: E. ROWLEY MORRIS, Esq., Gungrog Cottage, Welshpool.

Mr. W. R. GROVE, Q.C., F.R.S., exhibited twelve skulls from the ossuary at Rothwell Church, which were described by Prof. Busk, V.P.

IX.—*Remarks on a COLLECTION of SKULLS from ROTHWELL in NORTHAMPTONSHIRE.* By GEORGE BUSK, Esq., F.R.S.

THE skulls which form the subject of the following observations were selected by Mr. Grove from an enormous collection contained in a subterranean vaulted chamber in the parish of Rothwell. Of the history of this collection, or the sources whence the skulls were derived Mr. Grove was unable to obtain any authentic particulars; and it is not improbable that it merely represents the gradual accumulation, through a long series of years, of skulls and bones removed from the adjacent churchyard. The remains therefore might be taken as fair representatives of the population of the surrounding district for a very considerable period, and, as such, of much value in an ethnological point of view.

As the specimens selected by Mr. Grove were for the most part chosen as presenting what appeared to him some striking peculiarity—they cannot be regarded as affording any very correct idea of the general character of the collection, and it would be very desirable in the interests of ethnological science, that a full examination and numerous measurements should be made of as many of the skulls as possible, for by this means alone could it be determined whether the certainly somewhat peculiar characters seen in the skulls exhibited by Mr. Grove, are or are not present in a majority of the remainder.

The skulls submitted to me for examination consist of eight in tolerable preservation so far as the *calvaria* itself is concerned, but, excepting in one instance, the facial bones are all wanting, nor is there a single lower jaw among them. Besides these are fragments of four other skulls consisting for the most part of portions of the frontal bone.

1. The bones with one exception present the usual aspect of those which have lain long in a vault, none appearing to have been long in the open ground. They exhibit no marks of injury inflicted during life.

2. From their size and comparative thinness and delicacy I should conclude that some of the skulls are those of females.

3. As regards form, the most striking peculiarity of all or nearly all of these skulls is the extreme lowness of the forehead. It would not of course be difficult, in any large collection of modern English skulls to find many equally marked by this peculiarity, but I am not

acquainted with an instance where so many skulls from one locality are so strikingly marked in this respect. And it should be noticed that the frontal depression is as strongly evinced in the brachycephalic as in those of a more elongated form.

It is also to be noted that the frontal sinuses in most of the skulls, are of extraordinary dimensions.

4. With respect to the dimensions afforded by these bones I have thought it more convenient to throw them into a tabular form (p. xciii), from which the following particulars, amongst others, may be culled:—

(1.) That the proportionate mean dimensions of the entire *calvaria* taken in the way I have before suggested,—viz: by the addition together of the figures denoting the *length*, *breadth*, and *height*—are represented for purposes of comparison by the numbers in inches as under: (1) Rothwell skulls mean, 18·0; (2) modern English (mixed) mean, 18·58; (3) priscan and ancient (mixed) mean, 18·55; (4) priscan (Scandinavian) mean 18·88.

These numbers are of course merely relative, but they will serve to show that as contrasted with the ordinary recent English type, the skulls are rather small, and also as compared with a good many of the prehistoric or priscan and ancient skulls met with in this country, and still more so as compared with the large skulls of the stone period found in Scandinavia. This comparative smallness however may perhaps be accounted for by the circumstance that the collection includes female skulls, or it may be due probably to the smaller stature of the people,—a point which can only be ascertained by a proper examination of the limb bones is the same ossuary.

(2.) The majority of the skulls are more or less brachycephalic—in fact all but one—the mean latitudinal or cephalic index being ·782 and the highest ·833, whilst, in accordance with the law I have before pointed out* the latitudinal index is considerably less, viz: ·754.

(3.) In the other proportionate measurements of the skull there is nothing particular to remark.

* “On the Discovery of Platynemic Men in Denbighshire,” *Journal of Ethnological Society*, 1871, p. 467.

Sir JOHN LUBBOCK, Bart, M.P., F.R.S., exhibited some stone implements from Africa, and read the following Note:

X.—*Note on some STONE IMPLEMENTS from AFRICA and SYRIA.*

By SIR JOHN LUBBOCK, Bart., M.P., F.R.S., Vice-President
Ethnological Society.

In a previous volume of our *Journal* (vol. i, 1869, p. 51) I described some stone implements from the Cape of Good Hope, which Mr. Dale, Her Majesty's Superintendent-General of Education in that colony, had been so good as to send me. I have since received a further

Table of Measurements of the Rothwell Skulls.

No.	Length.	Breadth.	Height.	Least frontal diam.	Greatest frontal diam.	Parietal diameter.	Ocipital ditto.	Zygomatic ditto.	Frontal radius.	Vertical ditto.	Parietal ditto.	Ocipital ditto.	Maxillary ditto.	Fronto-nasal ditto.	Circumference.	Longitudinal arc.	Frontal ditto.	Parietal ditto.	Ocipital ditto.	Frontal transverse arc.	Parietal ditto.	Ocipital ditto.	Latitudinal index.	Altitudinal index.
1	7.0	5.8	5.7	3.8	4.8	5.3	4.7	...	4.2	4.6	4.6	3.5	...	3.6	20.3	14.5	5.1	4.9	4.5	11.6	13.0	11.6	.825	.820
2	7.6	5.6	5.4	3.7	5.0	5.4	4.8	...	4.7	4.7	5.0	4.1	...	4.0	21.4	15.2	5.5	4.5	4.4	11.6	13.9	12.0	.798	.710
3	7.1	5.6	5.4	3.8	5.0	5.6	4.5	4.7	4.3	4.6	5.0	4.4	3.4	3.4	20.5	15.1	5.0	5.4	4.9	11.6	14.0	11.4	.788	.760
4	7.5	5.4	5.2	3.8	4.4	5.3	4.3	...	4.4	4.4	4.6	4.1	...	3.6	20.8	14.9	5.0	5.3	4.6	11.6	13.3	11.6	.720	.690
5	6.8	5.4	5.3	3.8	4.4	5.2	4.2	...	4.0	4.0	4.3	3.9	...	...	19.6	13.8	4.6	4.5	4.7	11.2	12.5	11.4	.794	.779
6	7.2	5.3	5.4	3.5	4.4	5.2	4.2	...	4.5	4.7	4.8	3.9	...	3.5	19.9	11.2	5.3	5.0	4.6	11.2	13.3	11.6	.736	.760
7	6.6	5.5	5.1	3.4	4.6	4.7	4.3	...	4.1	4.1	4.8	3.7	...	3.3	19.8	13.9	5.0	4.6	4.3	11.0	12.7	11.4	.833	.772
8	...	5.2	5.1	3.8	4.6	4.9	4.2	...	4.1	4.2	4.7	...	...	3.8	...	...	...	4.9	4.6	11.2	12.6	11.9	...	...
mean	7.11	5.5	5.3	3.7	4.6	5.2	4.3	...	4.3	4.4	4.7	4.0	...	3.6	20.3	14.1	5.1	5.0	4.6	11.3	13.1	11.6	.782	.754

collection from that gentleman, and also some from the neighbourhood of Accra, on the Guinea Coast.

I think I need not apologise for bringing these before the notice of the Society, because we as yet know very little about the stone implements of Africa. Considering, indeed, that Africa is the most backward of all the great continents, it is remarkable how little evidence we have of the use of stone implements in that part of the world.

The flakes forwarded from the Cape by Mr. Busk, as well as those first sent over by Mr. Dale, were all extremely rude, and showed little skill or labour. Subsequently, however, Mr. Dale has found some much more elaborately made. They may, however, all be called spear-heads. The collection contains no axes or scrapers, nor any specimens even approaching the true types of arrow-heads. In fact, they all more or less resemble the two specimens figured. Of these, the largest (pl. i, fig. 1) is $4\frac{1}{2}$ inches long, and $1\frac{1}{2}$ broad. It is lanceolate in form, pointed at one end only. As shown by the figure, the ridge is not in the centre; and this does not appear to me to be accidental, because the other face of the spear-head seems to be purposely rubbed down on the same side. Thus, the thicker part on the one surface is to the right, on the other to the left. Hence, the opposite surfaces have opposite curvatures, and we get, though in a minor degree, that alternate fluting which is so generally found in African iron weapons, as pointed out by Col. Lane Fox.

This disposition is even more distinctly marked in the second specimen figured (pl. 1, fig. 2). This spearhead is somewhat smaller than the first, being 3 inches in length, by $1\frac{1}{4}$ in breadth. It is rather less pointed at the tip, and more so at the butt. Making allowance for the difference of material, it closely resembles some of the oval implements from the drift; having very well marked that twist, by which many of them are characterised. They are however generally larger, and rather broader in proportion.

Fig. 3, pl. 1, represents an Egyptian sacrificial knife of flint, which is in the Mayer collection at Liverpool. It is of pale but dull reddish brown colour and nearly opaque: it is 3 inches long, 1.1 inch wide, and tapers to the edges, the straight margin being the sharpest. Fig. 3, which represents this interesting specimen of the natural size, I owe to the kindness of Mr. H. Eeroyd Smith, Curator of the Liverpool Museum.

I have next to call the attention of the Society to some stone implements from the neighbourhood of Accra on the West Coast of Africa. They were collected by Mr. Winwood Reade, author of the work on "*Savage Africa*," who has recently returned from a second visit to that country, where he has been engaged in scientific investigations, at the expense of an enlightened African merchant, Mr. Swanzy, to whom I am indebted for the specimens now exhibited.

They were obtained at two places called Akropongo and Aburri, on the Gold Coast, 1500 feet above the level of the sea, and at Odumasie on the banks of the Volta. They appear to be met with not unfrequently when the heavy rain-storms cut gullies in the soft alluvial soil. Such storms are usually accompanied by thunder and lightning, and the

negros therefore call them "thunderbolts," and "God axes." It is very interesting to find in Western Africa just the same ideas about these stone axes, as have grown up in so many other places where the use of stone implements has been not only abandoned, but forgotten. We know that they are regarded as thunderbolts from Western Europe to Eastern Hindostan, and now we find the same idea in Western Africa, among a totally different race of men. More than this, in Africa as elsewhere, they are used as a medicine; bits of them being powdered and drunk as a cure for various ailments, especially rheumatism. Mr. Reade adds that there is no tradition of the use of stone implements on the Gold Coast, and the natives have no idea that these axes were so used. Some of the West African axes, as will be seen by the figures (pl. ii, figs. 1 and 2) closely resemble some of the smaller axes so common in Western Europe. Indeed this type may be said to be cosmopolitan, and needs no description. The African axes belonging to it are (at least those I have seen) small, being from two to three inches in length.

The majority of those collected by Mr. Reade belong however to a different type (pl. ii, figs 3 to 5). They are small, narrow, and thick: from 2 to 3 inches long, 1 to $1\frac{1}{2}$ broad, and $\frac{3}{4}$ inch to $1\frac{1}{4}$ thick. Some of them are round at the butt, others somewhat flattened. None of them are of flint. The collection also contains a quartz pebble, (pl. i., fig. 4) square, $1\frac{3}{4}$ inch across, with a thickness varying from $\frac{1}{2}$ to $\frac{3}{4}$ inch. The angles are rounded off by hammering, and it is pierced in the centre by a comparatively small hole, as if it were intended to be worn as a charm.

In the present state of our information, it is impossible to offer any conjecture as to the age of these implements. The depth at which they occur, and the absence of any tradition concerning them, prove no doubt that they are not of yesterday, but do not necessarily indicate any great antiquity.

As regards the condition of the people by whom these axes were used, though we must not conclude definitively that they were in the stone age, still from their ineffective character, and considering the abundance of iron ores, and the facility with which they are smelted, it seems unlikely that such wretched implements should have continued in use, long after the discovery of iron.

Lastly I propose to call the attention of the Society to a beautiful, and so far as I know unique, little flint object. It was found, not indeed in Africa but in Syria; I mention it here, however, because Syria is so intimately connected ethnologically with the Northern part of Africa.

It was found by Mr. Freeman, in a Wady known as Wady Ithm, on the road to Petra. It is of brown, creamy flint, $2\frac{1}{4}$ inches long, pointed at one end; the sides are parallel for the greatest portion of its length, and it has a maximum breadth of nine-twentieths of an inch. The butt end terminates like that of a scraper. One surface is flat; the other has a median ridge, and is beautifully and evenly fluted on each side. The figures (pl. i., fig. 5) will give a good idea of this beautiful little specimen.

I will not attempt to determine its probable antiquity or use,

merely remarking that it more nearly resembles some of the Danish arrowheads, than any other stone objects with which I am acquainted. I scarcely think, however, that it was intended as an arrowhead.

EXPLANATION OF PLATES I. AND II.

PLATE I.

Figs. 1 & 2. Two stone implements of spear-head form, from the Cape of Good Hope.

Fig. 3. Ancient Egyptian sacrificial knife in flint, from the Mayer Collection, Liverpool.

Fig. 4. Perforated pebble of quartz, from Accra, West Africa.

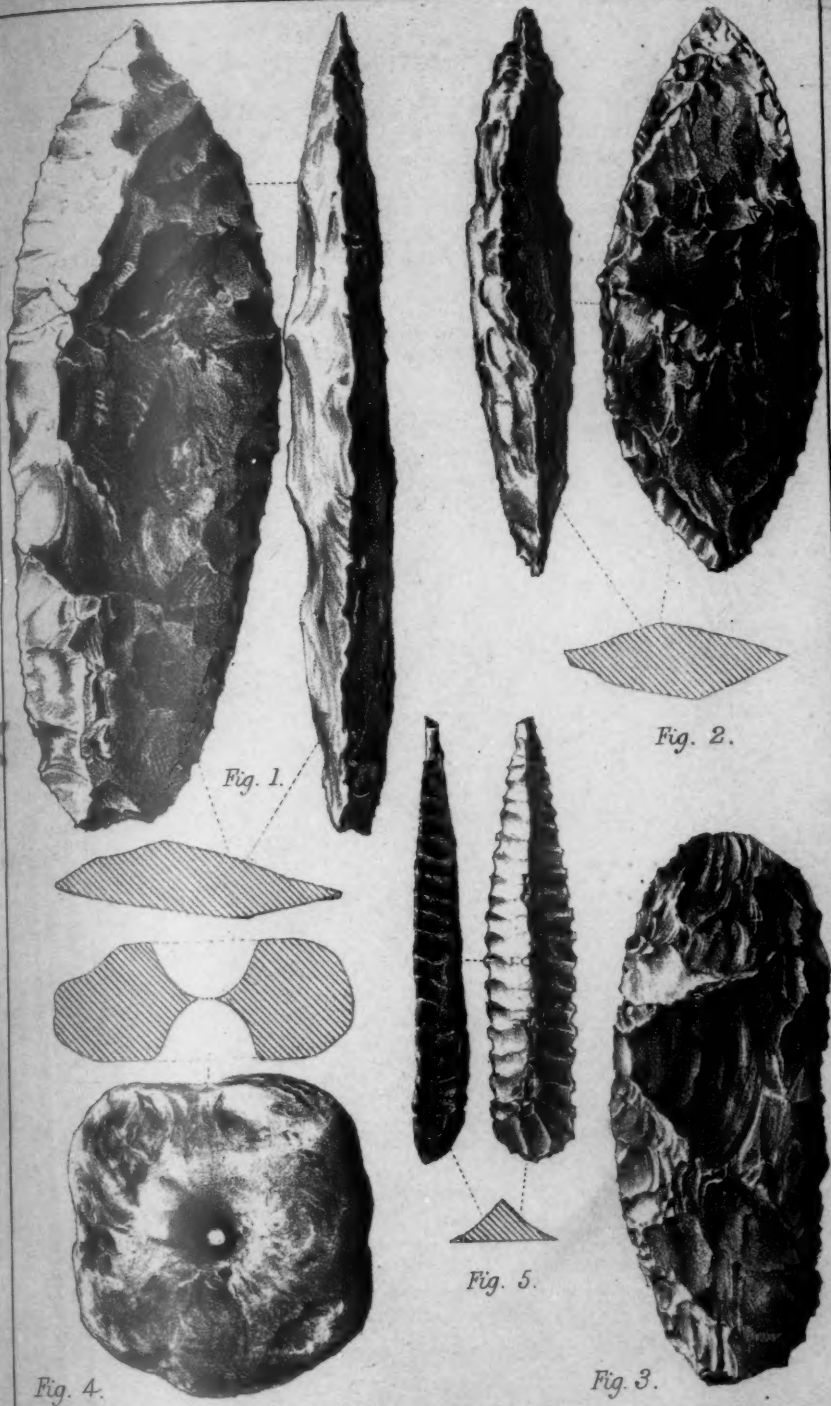
Fig. 5. Delicately worked object in flint, from Wady Ithm, Syria.

PLATE II.

Figs. 1 to 5. Five stone axes from the neighbourhood of Accra, W. Africa. N.B.—All the objects figured in these plates are represented of natural size.

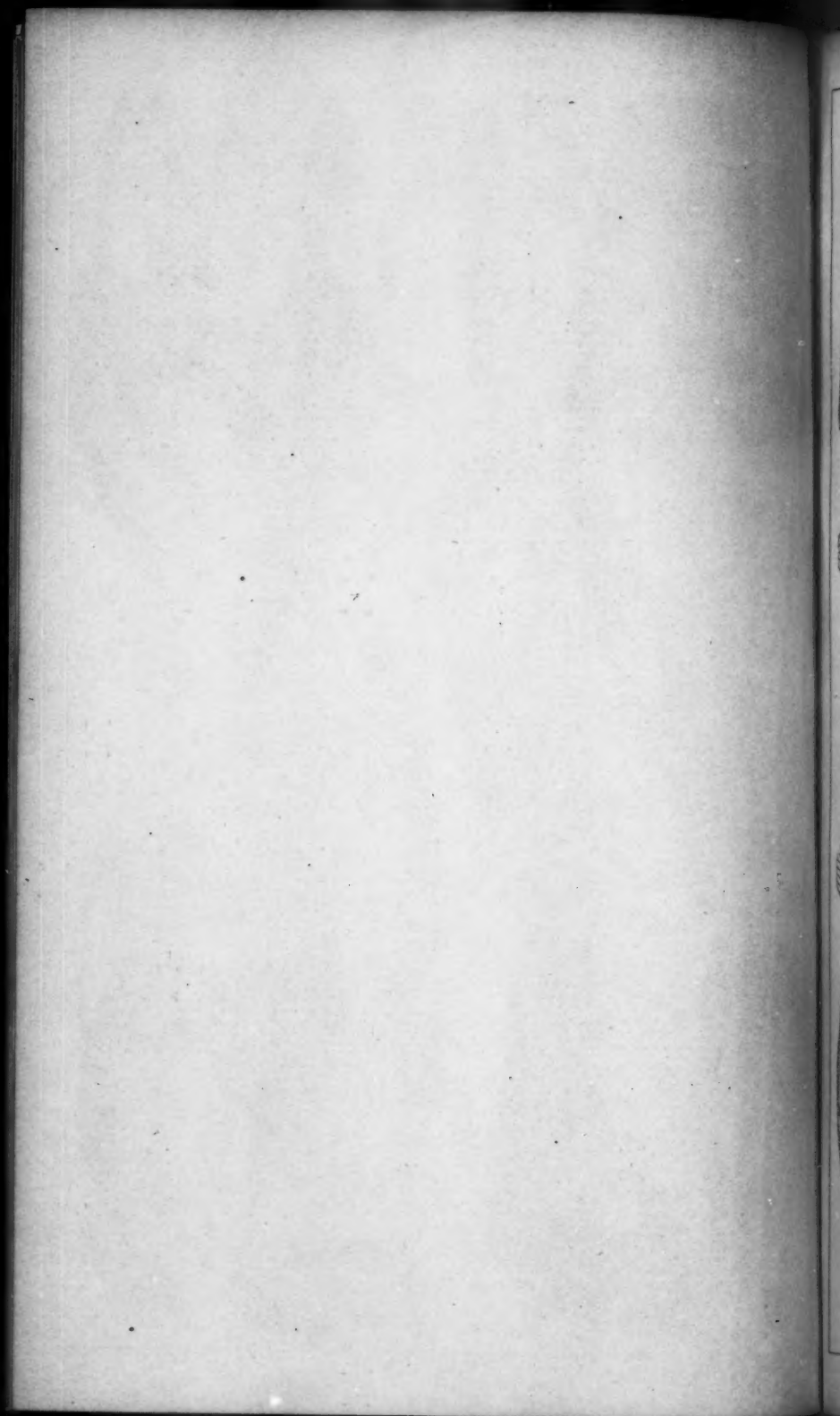
DISCUSSION.

COL. A. LANE FOX said, with reference to the remark made by Sir John Lubbock upon the resemblance of the two stone spear-heads (pl. i., figs. 1 and 2) to the corrugated iron blades found in use in various parts of Africa, that one of the spear-heads (fig. 2) appeared to have a slight twist, which though it might produce the same effect of giving the spear a rotation during flight, did not resemble that of the iron blades, but might be compared rather to the twist so frequently found in drift implements of the palæolithic type, which he believed to be purely accidental. The other spear-head (fig. 1) was differently constructed; the faces were unequal on the opposite sides of the spear-head, the ribs dividing the faces not corresponding on the two sides, but leaving a broad face on one side opposed to a narrow face on the other. This would also produce a rotatory motion, and it more closely resembled the principle of the corrugated iron blades; but he thought it was a question whether it was intentional or the result of accidental fracture. It would require that a number of such stone blades should be discovered, in order to prove that the form of the iron blades was derived from those of stone previously used in Africa. It was important to consider the geographical distribution of these iron blades. They were found all over Africa wherever iron was worked, from the Caffres on the south east and the tribes visited by Petherick in the Nile, to the Fans of the Gaboon,—tribes that had no knowledge of each other's existence; and the best proof that this form was not contrived independently by these tribes, for its use as a missile weapon, was, that it is used not only in missile spears but also in dagger-blades and axe-heads, and amongst the Caffres it is sometimes copied in wood; neither was it a necessity of the workmanship arising from the manner in which the blade was turned over on the anvil by the workman, for in all these countries some blades were corrugated whilst others were not, and the corrugations assumed various forms and were introduced into the ornamentation of the blade. It was evidently a conventional form devised, and persistently copied from



Kell, Bro. Lith. London.

STONE IMPLEMENTS &c. FROM AFRICA AND SYRIA.



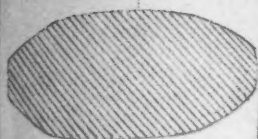


Fig. 1.



Fig. 2.

Fig. 3.

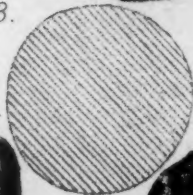
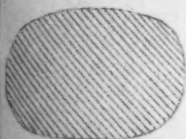
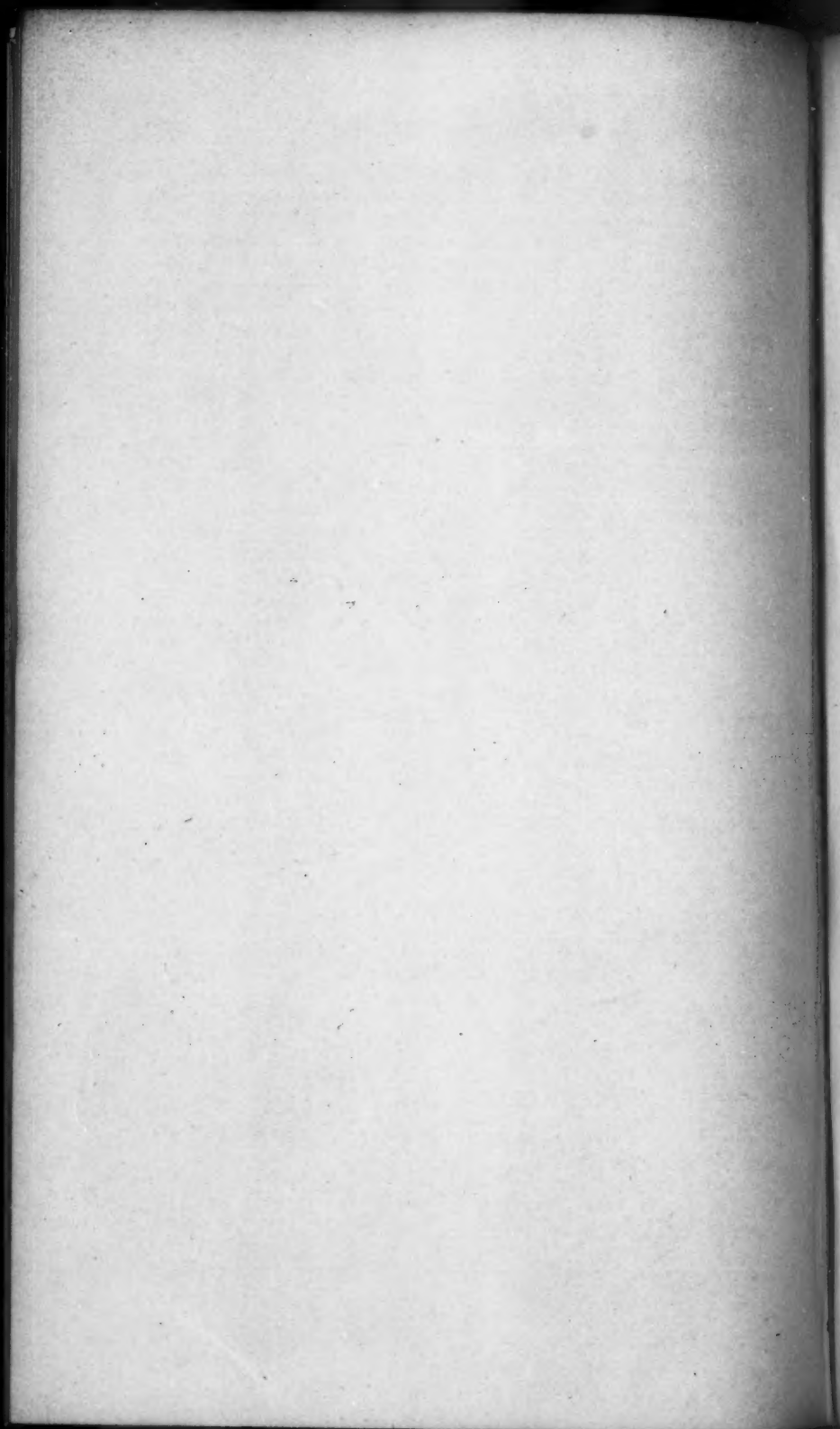


Fig. 4.



Fig. 5.



the same source from which the knowledge of the use of iron was derived. Throughout Africa the mode of fabricating iron was nearly identical; it was the same amongst the Dravidians of Central India, and the Malays. He had traced this corrugated blade upon the little iron spears attached to the axes of the Konds of Central India, and he had an example of nearly the same form on the iron spear of a blow-pipe from Borneo. A nearly similar form (a variety of this form it may be called) was used in the blades of the Circassian daggers, and it was common to the Franks and Anglo-Saxons of Early Europe. Other portions of the spear, such as the spud at the butt end, had nearly as wide a geographical distribution. He believed, therefore, that it was a form derived with the knowledge of metals from the earliest weapons in iron, and retained with that persistency which is characteristic of all barbarous races in the infancy of the arts. He saw no reason to suppose that it was peculiar to Africa, or likely to have originated there from copying the blades of stone. If, however, a considerable number of stone blades of the form exhibited by Sir John Lubbock were found, so as to lead to the supposition that they were intentionally worked in this form for a specific purpose, that would tend materially to alter the speaker's opinion on the subject, and he hoped that Sir John's remark might lead to search being made for them amongst the implements from the Cape.

Mr. EDGAR LAYARD exhibited a collection of stone implements from South Africa, and the following Note was read :

XL.—*Note on the STONE IMPLEMENTS of SOUTH AFRICA.* By EDGAR L. LAYARD, Esq.

THE specimens which I have the honour to lay on the table of the Ethnological Society this evening, although not representing the whole of the various forms of stone implements found in South Africa, are, nevertheless, some of the very finest of their kind yet discovered. They form a small collection which I have brought to England for my own use; duplicates, equally good and in greater numbers, exist in the South African Museum in Cape Town, in which place also are retained the other implements, to which I shall have occasion to refer in the course of this notice.

It may not be uninteresting to place on record the name of the earliest discoverer of South African stone implements, and the circumstances of their detection. The name of Thomas Holden Bowker, of Tharfield, in the district of Albany, is well known in the colony of the Cape of Good Hope, together with those of his eight stalwart brothers, as one of the most able defenders of his adopted country against the inroads of the Kaffir tribes.

Some ten or twelve years ago, while attending to his more peaceful duties as a member of the Colonial Legislature, he happened to be present while I was unpacking a small consignment of flint implements received from Copenhagen. He was much interested when I showed him those ancient forms, and, to my astonishment declared

that he had not only picked up scores of similar flakes in the eastern province, but had, moreover, when a boy, actually used them as heads for his own arrows, finding them from their shape peculiarly adapted to his purpose, the usually concave form causing the arrow to spin like a rifle bullet and thus travel with greater accuracy. I should mention that my friend is one of the great rifle shots of South Africa. He did not seem to have known that they were "the works of men's hands," and, on my expressing some doubt as to the identity of the forms, he declared that he still had some remaining, stowed away on a beam in an old barn, which he promised to send to me if the barn had remained undisturbed, and had escaped the ravages and burnings of his foes, the Kaffirs.

Chance, or fortune favoured the further discovery of South African celts! Mr. Bowker's parcel arrived several months afterwards while a chance visitor was present. This lady, the wife of Dr. Dale, the Superintendent-General of Education, was inoculated with my enthusiasm on beholding veritable South African stone implements. Coarse and rude though they were, they were the first that had been discovered in that region of the world, and I showed to my interested listener all the types I could gather from the museum stores.

Again the fickle goddess (Fortune, not my fair friend!) helped the good cause! Mrs. Dale was walking on the "Cape Flats," near her own residence, with a gentleman recently arrived from England. Suddenly he stooped and lifting up a stone from his feet, exclaimed, "Well! if we were not in South Africa, where I know no flint instruments have ever been discovered, I should say I had picked up a stone arrow-head." Mrs. Dale of course, immediately related the incident of the arrival of Mr. Bowker's specimens, which she had witnessed a day or two previously, and a further search revealed that they were walking over what I subsequently ascertained was an ancient manufactory of these stone weapons. Of course, immediate notice was given me of the discovery, and from this, and adjacent spots, most of the finest specimens have been procured.

Such is a succinct account of the first discovery of our South African weapons. I will now proceed to detail the various forms that have been found and of which specimens are mounted on the four cards exhibited.

On the first card we have twenty-one of the most highly wrought specimens yet discovered. Some are of perfect shape, being pointed at both ends and carefully worked on both sides, resembling those exhibited by Sir J. Lubbock (pl. i, figs. 1 and 2), while others are points of similar weapons: some are probably, from their small size, arrow-heads.

On the next card are several heads of a more unfinished kind; some of them are turned so as to show what may be called the "reverse" side, and the "boss," or cleavage lump, so remarkable on all these stone chips. There are also three cores, from which some of the flakes have been chipped. It is curious that, up to the present time, we are ignorant of the locality whence come the stones of which these weapons are formed. Apparently it does not exist in the neighbourhood of the manufactory, for such I consider the place (or places,

for there are several very close together) on the Cape Flats from whence these specimens were taken. Two of the specimens are what I believe to be stones for flinging. At the present day the native tribes are great adepts at flinging stones and knob-kerries.

The next card contains chips of various sizes: many of these were doubtless used as knives and scrapers. The ground is covered with them, clearly showing that it was the site of the manufactory. Two of the specimens are from the Albany district, and formed of a different description of stone from the rest.

The last card contains a varied assortment; some are from the Albany district, and are of Mr. T. H. Bowker's finding; but present a very great contrast to the comparatively highly finished specimens previously mentioned. Others are from the country near the Tatin Goldfields, many hundred miles from Cape Town. One specimen is a hammer: the rough edges show the hard work it has undergone in chipping off arrow-heads, etc.; the indentations on each side are purposely made to afford a firm grasp for the thumb and finger. Such hammers are not uncommon on the manufactory grounds, though scarcer than the cores, which are in their turn scarcer than the chips, and arrow-heads. With these stone implements are exhibited two fragments of intensely hard, coarse pottery, such as is always found in conjunction with these implements. One large piece in the South African Museum has evidently formed either the lid, or, as some suggest, a handle of a pot. It is a thickened lump, with a hole through it, clearly caused by the thrusting in of the two fore-fingers of either hand until they met in the centre. There are two descriptions of pottery, one rather finer than the other. It is singular how clay, containing such large fragments of quartz, should be so tenacious.

I will now briefly describe some other implements, not in my possession, but retained in the South African Museum.

1. A large stone pick, found 15 or 20 feet below the surface, by Mr. C. A. Fairbridge, in his garden at Sea-point. The ground is on the slope of the Lion's Head Mountain, and is formed from the *débris* of that hill. On comparing it with some of the earliest Indian forms, it appears identical. Two others have been found on the Cape Flats.

2. Three little elongated axes, formed from a hard black stone found in the Orange river. Two of them unfortunately have their cutting points broken, but the third shows clearly from the way in which it is worn away, that it must have been fixed angularly to a handle, and used as an adze. These were found in the Tulbagh district.

3. A stone axe, with a longish tail; its shape reminds one of a halbert head: the tail was probably inserted into the head of a knobbed stick, as is the common practice now-a-days with the natives with their narrow wedge-shaped iron axes. This appears to have been made of a soft, inferior stone, and though very efficacious as a war hatchet, would not have been of much service in cutting wood.

4. Rubbing stones and mortars (?). These are the names I have

given to certain forms to which I can attribute no other uses. The first are like stones I have seen used to grind colours; they are oblongo-oval, affording a nice grasp to the hand at the round end, and ground quite flat at the other by attrition. The mortars are flat discs, some eight or ten inches or less across, and have a depression in the centre apparently caused by friction.

A description of the stone weapons of South Africa would be imperfect without an allusion to some implements which, however, I believe, to have been used at a later date. First, there is in the South African museum, what I suppose to be a mandril. It was found twenty feet below the ground in clearing out the "eye of a fountain." It is beautifully smooth and rounded, tapered to both ends, sharp-pointed at one, truncated at the other. It is about twelve or fourteen inches long, and one and a half or two inches in diameter.* It may have been wrought in more modern days for use as a mandril on which to shape copper and iron bracelets.

Secondly, the perforated round stones found all over the colony. These vary in size and shape, and are as globular as a common ball. They were said to have been used even in later days by the bushmen for the purpose of weighting their bulb-digging sticks. They are described by Patterson and the older authors on South African travel.

It will be seen that the implements found on the Cape Flats are all more or less polished and smoothed. This is caused by the continual drifting to and fro of the loose sand covering this tract of land, which is intermediate between Table Bay and False Bay, and has evidently at some very remote period been submerged beneath the ocean.

The implements seem to have settled down through the sand, and now rest on the iron-stone conglomerate, which forms a kind of crust under the drifting sand; when this is broken through, clays, marls, etc., are reached.

A supplementary Report on the Prehistoric Antiquities of Dartmoor, by Mr. C. Spence Bate, was then read. This supplement is incorporated in the following report, which was submitted to the Society on June 1st, 1870.

XII.—REPORT on the PREHISTORIC ANTIQUITIES of DARTMOOR. By C. SPENCE BATE, Esq., F.R.S.

OF the several counties of England there is, perhaps, none that affords more varied scenery, each equally beautiful after its kind, than may be seen in Devonshire. On the southern coast, the bold headlands, with intermediate sloping lands, run far out into the sea, while inland fertile valleys and wooded hills afford picturesque loveliness to a landscape that scarcely has its rival. In the more southern "coombs," or sheltered vales, from which Devonshire derives its name,† the genial climate is so mild that exotic plants live unprotected

* I write from memory.

† *Damnonii*—"Men of the deep valleys." Devon—*Dyvnaint*, *Denf-neyn*, "deep or dark valleys, from which Devonshire derives its name."

in the open air. The myrtle, the fuchsia, and the magnolia become large trees, while the lemon and citron, with but little shelter from the keenest frosts, produce fruit that has not been surpassed in size and flavour. This district was anciently called, and is still known as, the "South Hams."

More inland lies the region of Dartmoor, a vast tract of undulating ground, having its highest points capped with granite tors, rising to two thousand feet above the sea. Bare and exposed, there is not a tree to be seen, except where the striving hand of man has endeavoured to overcome in a few isolated spots, the cruelty of nature.

De la Beche describes Dartmoor as "an elevated mass of land, of an irregular form, broken into numerous minor hills, many crowned by groups of picturesque rocks, provincially termed tors; and, for the most part, presenting a wild mixture of heath, bog, rocks, and rapid streams."

Two hundred years ago, Ridsen wrote, "Between the North and the South Hams there lieth a chain of hills, consisting of blackish earth, both rocky and heathy, called by a name borrowed of its barrenness, Dartmoor; richer in its bowels than in the face thereof; yielding tin and turf, which to save for fuel, you would wonder to see how busy the by-dwellers be at some seasons of the year; whose tops and tors are in winter covered with a white cap, but in summer the bordering neighbours bring herds of cattle and flocks of sheep to pasture there. From these hills, or rather mountains, the mother of many rivers, the land declineth either way; witness their divers courses, some of which disburden themselves in the British Ocean, and others, by long wandering, seek the Severn Sea."

This quaint description of the central portion of Devon appears to be as true in the present day as at the time of which this author wrote. But in order to appreciate, as far as in our power lies, the customs and habits of a pre-historic people, it should be our endeavour, as far as practicable, to ascertain the topographical character of the country, at, or as near as possible to, the period at which these people are supposed to have lived.

If we go back to the earliest records, we find that when the Conqueror came, those fertile valleys of Devon, which we are accustomed to hear spoken of as the Garden of England, existed only as a dense virgin forest. Here and there were scanty clearings around Saxon strongholds, near which some wooden shanties roughly built might be seen, while the old Roman road that went from Exeter to Plymouth was probably still capable of being distinguished, though rapidly becoming entombed in the struggle of the surrounding vegetation to regain its dominion. The submerged bays and inlets all round the coast demonstrate that wood once grew even to the water's level, and the *Domesday Book* tells of the large amount of forest and uncultivated lands that existed at the end of the eleventh century, but makes no mention of Dartmoor. This name appears to be first used in historic records in the year A.D. 1236, in a royal patent, wherein Henry III grants to God and the Holy church of St. Petrock of Lydford, a tenth of the herbage of Dertemore; and four years after, that is in 1240,

the same king Henry, by perambulation, made a certain portion a forest, which is known as the Forest of Dartmoor at this present time.

With the term "forest" we are liable to associate numerous trees, but in this instance the term either applied to such lands as were brought under the forest laws, or else indicated that it was beyond the pale of cultivation, and so a strange or foreign tract of land. But whatever the origin of the term, Dartmoor has always been a sterile district, unless we go back to the pre-historic period, when our raised sea-beaches were at the present sea-level, so that by lowering the whole country some thirty feet or more, we may presume that the climate was so modified, that the trees, whose roots and trunks are now found preserved in the numerous peat bogs, were then in full luxuriance.

But even supposing this to have been the case, the quantity is not sufficient to induce us to believe but that, when all the rest of the country was densely covered with dark clouds of forest, the region of Dartmoor was a vast undulating district of turf and bog. However changed may be the general aspect of the country, there are some conditions that must be still the same. "The mother of many rivers," the streams flow on now the same as in ages past. In the beds of these many rivers, most of the tin that was supplied to the nations of Europe was found. Along the course of every stream numerous ancient workings demonstrate the eagerness of the search; and the remains of ancient smelting-houses show the various stages in the course of progressive civilisation. Ancient moulds cut on the face of hewn and unhewn blocks of granite are frequently found,—the more perfect in connection with the numerous smelting-houses on the moor, and those of rudest form, in connection with spots that still retain the evidence of fire. These latter are known, more especially in Cornwall, by the name of "Jews' houses." Here traces of smelted tin are frequently found, sometimes in small grains, and occasionally in large blocks. Some of these have been preserved. One in the museum at Truro, weighs about 130 lbs., and is shaped like a butcher's tray; it is two feet eleven inches wide, and three inches thick at the centre; perfectly flat on one side, and curved on the other, and having four prolongations at the corners, each a foot long. It is well adapted for being carried by two men; for being placed at the bottom of a boat; and for being strapped, one on each side, with their flat surfaces against the sides of a horse. This block of tin was dredged in Fal-mouth harbour, where probably the boat that was exporting it had been lost.*

Some information respecting the climate is also necessary to assist us in approximating to a knowledge of the habits and condition of the prehistoric people. Before the time of Diodorus, Hecatæus said, that "there is an island in the Ocean over against Gaul, under the Arctic Pole, where the Hyperboreans dwell, so called because they lie beyond the breezes of the north wind; that the soil there is very rich and fruitful, and the climate temperate, inasmuch as there are two crops in

* A model of this block of tin may be seen in the Museum of Practical Geology in Jermyn Street, London, where it is exhibited in association with some specimens of the so-called "Jews'-house tin" in wall case 10.

the year." This is assumed to be the south of Britain, as being the only place that answers to the description of the old geographer. Thus, as far back as we have records, the climate of Devonshire along the sea-border appears to have but little altered. We must, therefore, contend, that that of the interior also cannot have much changed.

The climate of Dartmoor, as we know it now, is very different from that of the rest of Devonshire, and is very varied in itself. Its summers are genial and pleasant, and the hottest days are always tempered by a refreshing coolness born of the altitude to which the tors are elevated. In the winter the whole is changed. Rain, frost, snow, or fog, is the daily aspect from November until March. But rain does not fairly express the humidity of the climate. The wet pervades every place and thing; the thickest granite walls will not keep it out, and when the stone has been faced with brick, the moisture seems to rise from the soil within, or is condensed upon the walls, for they seem still to drop with wet. The snow in this wild place is more severe than is known elsewhere in the county. Snow in Devonshire is but a thing of beauty. It comes in a night, and thaws in a day; it is welcomed as a sign of winter, and is enjoyed while it lasts. But on Dartmoor a snowstorm is a fearful thing; the hardest Moor-man dares not venture out, and woe betide the traveller who may be caught in it. Scarcely a winter passes but we learn of some life being lost in this wild place.

But we are writing of this present time, when Dartmoor is comparatively thickly inhabited, when broad, and well-kept turnpike roads traverse the district from end to end in every direction. The time, however, is not so long since, counting by years, when the direct road across the moor was defined by granite pillars with letters on the side, to direct the traveller to the town to which he was journeying. Several of these posts still remain between Hessary Tor and Merrivale Bridge, something like a furlong distant from each other, with the letters **A** on one side and **T** on the other, showing that the line of pillars directed the way from Ashburton to Tavistock.

Besides the rain and the snow, the mists are among the most disagreeable features of the moor. These are the more troublesome, because of their frequency and of the suddenness with which they come on. A small, unsuspecting cloud may be seen hanging round the summit of a neighbouring tor; anon, in half a hour the small cloud expands and rolls down the mountain slope, shutting out everything from view. Woe to the traveller who, without compass, may happen to be on the moor then!

And, in the bright summer days, the air is so buoyant and elastic that invalids grow strong, and old men young, with that delicious consciousness of life that is rarely to be met with in busy scenes, and never felt in crowded cities. Such was the climate of Dartmoor in the old time, when the early inhabitants of these islands erected those huge and unwrought monuments to which I desire to draw attention.

The exceptionally beautiful summer of 1870 has been most favourable for moorland exploration. This has been particularly true of

Dartmoor, where in most years the extensive tracts of bog are very wet and soft. This year a horse could easily pass over the most dangerous places and not be more than fetlock deep, and that more frequently in dust than in mire. The drying of the soil has been visible over every portion of the surface; most conspicuously in the neighbourhood of the rocks and stones.

Round the base of every boulder a margin of unstained granite marks the action that the vegetable mould has had upon its surface. Disintegration is moreover strongly evidenced in the numerous fragments of granite found round the base of every stone.

These splinters demonstrate the gradual destruction from weather-action of these old moorland monuments; a fact that in itself accounts for the absence of ancient markings (even if such ever existed) being still found.

I think that we should first attempt to arrive at a knowledge of the dwellings which the old inhabitants erected on the moor, and in which they probably lived at least half the year. These are somewhat differently constructed in different parts of the moor; sometimes existing in clusters, and sometimes as solitary dwellings; sometimes in connection with what we call Druidical remains (for want of a better name), sometimes in connection with ancient stream-tin-workings, and sometimes associated with enclosures of small tracts of cultivation.

These hut-dwellings were generally built with a double row of stones closely put together, the outer one being about two feet distant from the inner. These hut-circles range generally from nine feet in diameter to five and thirty; and inside some of those of medium size at the centre, is frequently a small heap of stones which has been supposed to have been the remains of a fire-place (pl. iii, fig. 4.) The interior and upper portion of the walls of these circles was undoubtedly built with turf cut from the surrounding country. The small heap of stones in the centre that has been described as a fire-place was, I believe, a spot on which an upright pole was fixed for the purpose of supporting the centre; thus the turf was gradually built inwards until it was necessary to support it from within. In larger dwellings no such stones are apparent, and we must therefore assume that their greater span required some other mode of support. Thus we may imagine that the turf roof was kept up by a series of rafters, or poles, resting one of the ends on the external wall, while the others met together at the middle, and here being tied together by some strips of bark, they formed the apex of the roof, when probably the imperfect connection of the materials allowed the escape of smoke from the fires within (pl. iii, figs. 1 and 2).

Some writers have contended that after the first few feet of stone and turf, the huts were roofed in with a thatch of rushes.

Rushes are to be found on the moor in some quantity, but certainly not in such abundance as would make them the easiest material to collect. Neither would they be found the most suitable. The large span of the dwellings seems to contradict the idea of a roof such as would make reed serviceable. A thatched roof can only be practically valuable when it is high-pitched, since otherwise the moisture which is so pre-



Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.



Fig. 5.



Fig. 6.

HUT DWELLINGS ON DARTMOOR.

Kill. Br. Lib. London.

valent in this district, would rapidly penetrate the roof and be continually dropping within; and a steep or high-pitched roof in huts of from twenty to thirty feet diameter could only be attained by raising them to so great a height as to preclude their being able to withstand the frequent storms of the colder seasons.

On the Dartmoor there is nothing so convenient and so easy of being procured as the turf of the neighbourhood, and moreover nothing so suitable for the purpose. When fresh cut, peat has a consistency more like that of clay; under only small pressure, it will readily bind very compactly, and, after having been once dried in the sun, will resist with considerable persistence the penetration of the heaviest rain. This would be used most probably for the walls, while turf, locally known as "fag," would be best for the roof, and is still used for that purpose on the moor; it also has the advantage of allowing the huts to be so low that the wildest weather would pass over the villages without injuring them.

The remains of these huts are generally found associated in groups, sometimes in very large villages—rarely alone. They are generally found on the sunny side of the tors—frequently in the neighbourhood of a stream which shows signs of having been well worked over for tin. Wherever they are found they frequently seem to be associated, more or less intimately, with other remains, such as circles, parallellitha, kistvaens, etc., the evidences of past history, of which we have no other record; and if care be not taken to preserve them, these are liable to be broken up to mend our highways, or become the gate-posts of some neighbouring field. There are many instances where these associated villages are, or were, surrounded by a wall of granite stones. These appear to possess features varying somewhat in different localities. On the side of the hill under Shelltop, is one that is enclosed by large stones, which built up a wall of considerable dimensions round it, still in tolerable preservation. The enclosure is nearly square, with the corners rounded, being about one hundred and fifty paces each way, and enclosed on all sides except what appear to have been entrances from without, one of which is near the upper extremity on the eastern side, while the second is on the lower and southern side. On each side of the lower entrance there are the remains of small huts or chambers, built in connection with the wall of enclosure. One of these appears to be situated on either side of the entrance, and is suggestive of having been built for the protection of the sentinels placed to guard the admission to the village camp; two other such sentinel-huts were placed one on each side of an old trackway that approaches the village at the south-east corner, and leaves it again on the south-western corner, and may be traced for some long distance over the moor leading to a cairn on one side, and to an avenue and cairn on the other. Within the enclosure are nine or ten hut-dwellings, two of which are peculiar from being double. Another enclosure of somewhat similar character is the better known village of Grimpound. This was described in Rowe's *Perambulation of Dartmoor* about two-and-twenty years since, and appears to be nearly in the same condition now as then. The

stones at Grimspound are larger and more cyclopean in character than those of the village just described under Shelltop, consisting mostly of moorstone blocks, so large as not to be easily displaced. The average height of the rampart is still about six feet, but the width of the base is fully twenty feet. With the exception of an opening on the east and west, the enclosure is perfect, surrounding an area of about four acres. The hut-circles in this enclosure are numerous, occupying every space, leaving only one vacant spot at the upper end. A spring rises near the eastern side, and skilfully conducted for some distance below the wall, supplied the inhabitants with pure water. The whole, says Mr. Rowe, presents a more complete specimen of an ancient British settlement than will perhaps be found in any other part of the island. On many parts of the moor enclosed villages may be found somewhat similar in character. There is one near the head of the Yealm, built with rather smaller stones than those previously described, the study of which, I think, may throw a little light on the engineering architecture of the period. The enclosure, or pound, as it is locally called, is about a hundred and forty yards square, and encloses about thirty huts. On the western side extends a second enclosure, but not quite so large. The entrance to both these walled villages is towards the south.

In some parts for a few feet the wall is tolerably perfect; for instance, at the south-eastern corner, for about six feet, the wall has a perpendicular face on the outer side; about half way up the eastern wall it is tolerably perfect for a yard or two on the inner side (pl. v, fig. 4.) I therefore am enabled to show that the base of this old wall, though somewhat irregular, was about six or eight feet in breadth. The wall was first commenced by an internal and an external row of stones fixed in the ground on the edges, so as to stand upright; within these two rows the stones were placed, with a small attempt at regularity, and (judging by the quantity of stones that lie about) to the height probably of from six to eight feet. The entrance to the enclosure was on the southern side, being that which is nearest to the river, which is about a quarter of a mile distant. On the upper, or northern side, towards the eastern corner, there is another opening, but which appears rather to have been made by the destruction of the fence than to be intentional in its design. Near this opening there stands against the outer surface of the wall a small hut of beehive shape, built of stones, only the roof of which has fallen in (pl. iii, fig. 3), the walls still remaining in some parts to the height of about five feet. Seeing that it stands near a gap in the main enclosure, one would be inclined to think that it might have been erected recently by some loiterers on the moor, but for the following circumstances. First, there are evidently the remains of two or three others on the eastern side; that is, the side most open to a wide expanse of moor; and secondly, that there is in the plan of the hut a peculiarity of form that I have seen nowhere else except in the moorland chambers. The form approaches that of being straight on two sides, and curved on the third. The walls are about three feet in thickness, and slope inwards. Within this enclosure are about thirty hut-circles of different sizes, and within the smaller enclosure at the south-

western extremity several more. Outside the wall on the summit of the hill, and on all sides, are a very large number of the remains of similar dwellings, many of which appear to have been built almost wholly with turf and stone. This may, I think, be gathered not only from the circumstance that in some places a few feet of such mixture of material may be found, but also from the quantity of small granite stones which remain on the ground within the circles, the remaining evidence left by the *débris* of fallen roofs of these old abodes.

At Merrivale Bridge, there are two enclosed villages—one upon the plan of that last described, and the other still more cyclopean in character, the entrenchment being formed with huge blocks of moor-stone. But these are retained in their position, only for about half the circuit of the village. There is an enclosed village on the Avon, the huts within the circle of which are numerous; many of these have in connection with them smaller erections of the beehive construction, some of which are in tolerably perfect condition. That which I figure as fig. 5, pl. iii, has only a small hole on one side near the top broken in. This hut appears to have been built according to the usual plan of these buildings; that is, by gradually placing stones one on the top of another, each succeeding one reaching still farther in than the preceding; in this way all parts of the wall incline towards the centre, care being taken that the weight of stone balances, so as not to topple the sides over; in this way they are raised until the opposite sides of the building approach near enough to each other so as to be spanned by a single capstone that completes the arch on the summit. One such building as this still exists, in very perfect condition, on the banks of a stream that falls into the Erme on the right bank between Staldon Moor and Staldon Barrow. This is shown in fig. 6, pl. iii. It is about six feet long, four wide, and three high; the stones of the side walls overlap each other, and three large capstones form the roof. The outside of the building is much higher, but this is due to the accumulated vegetable mould of many years. The entrance to this strange little building is up the stream, and one would have supposed it very liable to have been inundated by the floods that must occasionally have poured down the brook. To obviate this, two or three large stones defend the entrance, by being placed upright across the lower portion of the doorway; and about three or four feet distant is a low wall of large granite stones, that was evidently placed to act as a breakwater, and to direct the flood away from the entrance of the building; in this it has been successful, since had it been otherwise, the hut would not have continued to enable us to describe it. This last differs from those on the Avon in being solitary, no such hut or hut-circle being found within some considerable distance. This erection appears to be somewhat more rounded also, but this may arise, as is most probably the case, from the character of the overgrowth of soil and vegetation—the one on the Erme being covered with heather and ferns, while those on the Avon are mostly covered with turf and short weeds.

On the Avon the beehive huts are not only in close connection with the remains of ancient villages, but are in every instance incor-

porated as portion of a hut circle. That which I have described (pl. iii, fig. 5), although standing in close connection with the wall of a hut, yet occupies a place within a circle that is somewhat oval in form, being about thirteen feet long and eight broad, the entrance to which is at the opposite extremity to that of the beehive erection. This appears to be the general character of these buildings, but there is one that varies in its construction from the others. The one that I have figured as fig. 1, pl. iv, has what appears to have been a short passage leading to it, but this which seems to have been the inner side of the passage, is, I think, the remains of a central wall, which supported the roof of the building; my reason for so thinking is in consequence of a close examination of the stones that remain in position, of which the drawing is a tolerably close representation. The stone which stands as the central portion of the roof, instead, as in the other huts of this description, forming the cap or covering stone of the roof, lies under one extremity of a long stone that rests its opposite end on the outer wall. To do this, the stone at the inner end must have received support. This stone, in all appearance, was a continuation of the inner wall of the supposed passage. I therefore believe that a correct restoration of the hut would show it to have been an oblong erection with a wall running through the longer axis, from the summit of which long flat stones sloped to meet the stones that form the outer walls, one on each side, so as to form a double chamber, such as I have given in section in fig. 2, pl. iv.

The form and size of these small huts are strong evidence of their *not* having been used as dwellings, but of their incorporation as parts of larger huts. There is every reason to think that they were places for keeping stores of food, or other valued possessions in. The hut circles are tolerably numerous, but all have not beehive erections in connection with them, although there are several specimens of the latter to be found among them. Some of the hut circles are outside, but most of them are within a walled enclosure of tolerably strong uncemented masonry. The outer wall of this village affords no variation worthy of remark as distinguishing it from some of those previously described; but there is one on the western slope of Trowls-worthy Tor that cannot be passed over without especial notice.

This enclosure is nearly circular, and measures about one hundred and fifty paces each way (pl. v, fig. 1). The walls are unbroken through the entire circuit, excepting at two entrances, one facing towards the north, the other towards the south. These two entrances I wish to describe. The walls which form the circle are about five feet in width, and the entrances are about six feet. The opening on the north side is blocked up by four walls, each wall being diagonally placed with regard to the walls of the enclosure, two within and two without, placed in the form of a cross. The outer walls extend for about twenty-four feet each, running smaller towards the distal extremity, and larger towards the enclosure, where they approach each other so near that only a single man at a time can pass between them; so also on each side of these walls, between them and the extremities of those of the enclosure, there is but space enough for one person at a time

to pass in or out. Within the enclosure, the inner walls extend one—for about twenty-seven feet, and the other for above twenty feet. The inner walls resemble those on the outer side, except that they reverse their position and extend farther from each other the farther they advance within, where also they as gradually decrease in size and importance.

At the southern entrance the arrangement is somewhat different. The walls, which are erected on the outer side, are not so straight, and have the distal extremities curved, and the space within heaped irregularly with large masses of granite. The inner walls are likewise less straight—more particularly that which lies most towards the west. The outer and the inner walls are brought so near that it would be impossible that more than one person at a time could pass. Within this entrance to the enclosure is a hut-circle which differs from these relics generally as well as from those within the present circle also, in being placed on made ground; the ground evidently having been built up for making the hut to stand upon level ground.

I think that these two kinds of works at the gateways or entrances to the camp are evidence of the military character of the enclosure, since they are evidently designed to prevent a rush of many men, it being impossible for more than one person to pass at a time. And if the square-like chamber on the inner side of the southern entrance, of which a few stones in line still remain, has been intended as a place for a sentinal watch, a single man might defend such a position against great odds. The whole plan, I think, is an interesting specimen of ancient military engineering.

I know of but one thing at all resembling these gateways, and that is on the same hill, near the ridge, where a wall of about fifteen feet thick extends from Trowlsworthy Tor to near the banks of the Cad, a distance of a mile. About a quarter of a mile from the Tor there is an opening of several feet in width, but the passage is narrowed by two walls on either side. Here, instead of the flanking walls being straight, as in the northern gateway of the enclosure, they are curved, so as to widen still more the entrance the farther the distance from the main wall.

On Brown Heath, near the head of the Erme; are two enclosures of about one hundred and fifty yards in diameter, in which are several hut-circles (pl. v, fig. 2). These two (*a, a*) are connected by, or, at all events, lie adjacent to, a stone avenue (*b*), of about 177 yards in length, with a kistvaen enclosed within a circle of stones (*c*), of which fourteen are still standing. The avenue is a double one, and lies north and south, the kistvaen being at the northern extremity. At about one-third of the length of the avenue from the kistvaen are the remains of a hut-circle (*d*), which impinges so closely upon the avenue that it is a wonder that the one has not destroyed the other.

It is a curious question here to consider, which of these two was the first in position. If the avenue were first placed, we should have thought that those who built the hut would have used the stones of which the avenue was formed for the purpose of erecting the found-

ation of their abode. Or, even had the large enclosure been of later date than the avenue, we should have supposed that the stones would have been removed at a time when such an enormous quantity was wanted for the building of these extensive walls. These lying so conveniently would have been first used had the enclosures been of later date than the age of the avenue. I think that this evidence is of value in assisting to prove that the two kinds of structures were coeval in date; or, at all events, that the circles must have been placed in position before the period when the sacred character attached to the avenue ceased to have an influence over the minds of the people who inhabited Dartmoor.

About a quarter of a mile from these enclosures is one of modern date, known as Ermepound. This was erected for the purpose, as its name implies, of impounding stray cattle. A single glance at this is sufficient to show that it is no old village, as we believe the others to have been. It bears all the evidence of a construction carried out for the purpose of forming an enclosure that should at the same time be hastily and inexpensively built. It is irregular in form, and comparatively small in size.

On Shaugh Moor, there is one that is circular in form; the walls being built with huge moorstone blocks, probably banked between with turf. Within this enclosure, there is but a single hut-circle, and that near the centre. About forty paces distant, on the hill-side, there are the remains of track-lines, made with huge blocks of granite placed on the ends, some near together, others more or less distant. There is an enclosure of irregular shape under Black Tor, and others under Mist Tor, etc.

Read by the light of the poor records that are yet left to us, and which are daily becoming obliterated, I think that we may conclude that we have in these mounds the remains of walled villages, the inhabitants of which, in times of security and peace, dwelt in the surrounding country, but when an enemy was known to be approaching they crowded within the fortified enclosures. The several stone huts outside the wall at the Yealm Head were, probably, watch-houses from whence the sentinels could always keep guard over the out-lying enemy without being observed himself.

The village at Kestor Rock is not so enclosed, but appears to have been inhabited by a people who enjoyed peace, for the numerous track lines that cross the hill-side leave the evidence of a people whose thoughts were given to the cultivation of the soil. So, also, were probably the tribes who peopled the neighbourhood of Rippon Tor.

The hut-circles in the neighbourhood of Kestor differ from all others that we know of on the moor, in having the surface of the ground excavated, the slope of the hill being cut away so as to make the floor of the huts level; a small fact, but one which suggests that the people endeavoured to make their houses comfortable, and therefore affords evidence of their long residence in the place.

In the neighbourhood of many of these villages (and, perhaps, at one time near them all) stand the remains of what are known as stone avenues, or *Parallellitha*.

These ancient megalithic remains are peculiar to Dartmoor, at least as far as this country is concerned.

In the Island of Lewes there is an avenue of nineteen stones leading to a circle of twelve others, known as the temple of Classerness, and Mr. Stuart, in his memoirs on stone circles, and allignments, says, that in Scotland the cairns have lines of pillars leading from them.

In Brittany an avenue of large stones leads to the Dracontium Temple of Carnac. But the avenues on Dartmoor appear to differ from either of these, and, although they have been described as *Vie Sacree*, I think that we have little evidence to show that they were more than burial places for the honoured dead.

Of these avenues the most extensive are those found on Shuffledown Moore, near the Kestor Rock. Here they extend for about half a mile in length. They consist of five separate avenues and have been described by the Rev. Mr. Rowe and Mr. Ormerod in the Transactions of the Plymouth Institution. All the avenues in this neighbourhood have a more or less north and south direction. The first lies almost due north and south, and terminates in a triple circle of upright stones at the southern extremity.

The northern limit is not clearly defined, and is imperfect, but can be traced for about one hundred and forty paces. A second avenue, running S.S.E., is about the same length as the preceding, from which it is distant about thirteen yards. This second avenue has no apparent termination in any circle or cairn, but this may arise from its destruction through the passage of a track-line traversing it at the southern limit.

A third avenue commences a little to the west of the triple circle of stones, and runs in a S.S.E. direction, and terminates in a circle of stones, of which eight remain, enclosing a kist-vaen, the covering stone of which is gone. This avenue is in tolerable condition, though some of the stones are missing, and others have fallen; and is about one hundred and ten paces long. A few paces to the south a fourth avenue commences, in small stones, and runs in a direction almost due south, and is lost before it reaches its supposed termination in the Longstone Maen. Beyond this, Mr. Ormerod says that there was another, the stones of which have been removed for the purpose of building a wall, and only the pits remain in which the stones stood. This avenue is supposed to have reached a stone about two hundred and seventeen yards off, and which a short time since, with two others, was known as "The Three Boys." These stood in a triangular position, and were about four to five feet in height, the one that remains being about four feet six inches: they were probably the remains of an old cromlech. It will be observed that each of these five avenues has a feature peculiar to itself;—That which is the most northerly, and which we have called the first, terminates at the south extremity, in a triple circle of stones, circumscribing three central ones. These circles consist severally of ten, six, and eight stones. The second avenue appears to have no defined termination at either extremity. Mr. Ormerod is of opinion that it made a sudden curve to join avenue No. 3; but it appears to me rather as a recommence-

ment of No. 3, which would, had it continued, have interfered with the triple circle belonging to avenue No. 1. Avenue No. 3, terminates in a circle that enclosed a kist-vaen. Avenue No. 4 terminates at the southern extremity in a rock-pillar, while that of No. 5 ended in a cromlech. Avenues Nos. 4 and 5 are continuous, and it is not improbable that No. 4 is a prolongation of No. 5. All the avenues therefore commence towards the south and terminate towards the north, commencing in one with a cromlech, in another with an encircled kist-vaen, and in the third in a triple circle, each being a different mode of sepulture. Under Black Tor, near Princetown, there are two avenues, lying nearly east and west, the more northerly being a double row, the other consisting of a single row of stones. The first is nearly a furlong in length, and has on the right side forty stones in position, and on the left fifty, while the latter has but sixteen, and many of those very distant from each other. Both avenues terminate at the eastern extremity in a barrow encircled by stones. The stones that surround the more northerly barrow are larger than those which enclose the barrow of the less important avenue; in each case the barrows have either fallen in or been excavated. About midway between the sources of the Plym and Eylesburrow is a single row of stones. It runs from north-east to south-west, and has a circle of stones, tolerably perfect, at the northern extremity, of about thirty yards in circumference, and about three feet in height. There is a cairn within, the centre of which has fallen in, or has been rummaged by the treasure-seeker.

The line of stones consists of but a single row, and extends for eight hundred yards. The first two were about ten feet above the ground. The first had fallen so as to lean against the second, and both were on the incline. The first eight or ten stones declined in size until they reached, in the greater number, but one foot in height. Sixty of these were standing, with but little interception, about six feet apart, when came a hiatus of about thirty yards, after which we counted about sixty more, but from these many were missing in the row. A large stone seemed to mark the termination of the avenue, beyond which, at about a hundred yards, was a large cairn that evidently had been ransacked, and a portion of the stones carted away. This relic has never previously been observed, as I can find no record of it in Rowe's *Perambulation of Dartmoor*. From the large size of the stones at the north-eastern extremity, and the importance of the cairn within the circle, I look upon this as being one of the most interesting specimens of the kind in the locality.

On the western slope of the hill, the summit of which is crowned by the Great and Little Trowlsworthy Tors, in a line almost direct between Lee Moor Cross and the larger Tor, stand two parallellitha. The longer and more important is about seventy yards in length. The avenue consists of a double row of stones, of which fifty-three are standing on each side. But in Rowe's *Perambulation* it is spoken of as having sixty on the east side, and fifty-five on the west. The stones are generally about a yard apart. In many places the stones are missing, if the number is given correctly in Rowe's *Perambulation*

(1830). A leat has been cut, dividing it in two, near the centre of the avenue. This no doubt has been the cause of some being removed, and when we visited it a few weeks since, a line of sticks was placed so as to suggest that some undertaking is likely to proceed that shall still further interfere with its entirety. The direction of the avenue is nearly east and west; it consists of stones about a foot or eighteen inches high, and terminates near a stream in a stone about five feet high. The opposite, or eastern extremity, terminates in a circle of eight stones, seven of which remain standing, and one has fallen. This circle is about seventy-five feet in circumference. All the stones are large, the largest being about five feet above the ground, and two feet in breadth. A few hundred yards to the west is a smaller and less important parallellithon. The direction of this avenue is nearly east and west, being in a line that leads direct to the sacred circle at the eastern extremity of the longer avenue. It consists of a double row of stones, of which sixty are on the northern side, and forty-two on the southern. Rowe says that there were forty-six on each side. At the southern extremity is a large stone about four feet high; the opposite extremity is terminated by another stone somewhat higher, and the only one that is standing of those that enclosed the sacred circle; most of them are, however, still lying where they once stood. The circle is about fifty-four feet in circumference.

On the southern side of Shell Top there stands a large cairn (pl. iv, fig. 4), that either has never been completed, or has been disturbed. From this cairn run southwards several pairs of stones, the remains of an old stone avenue. This cairn is not surrounded by a circle, and unlike many of the others is very distant from a stream, though it is not far from the fortified village previously described. There are other stone avenues recorded from other parts of the moor; one near Fernworthy circle, another under White Tor, Shavercombe Down, etc.; but of all that I have seen, the most perfect, the most interesting as being associated with other relics, and the most in danger from the ruthless hand of modern enterprise, are those at Merivale* Bridge (pl. vi. fig. 1). Two parallellitha are to be found at the distance of about half a mile from the river. They are situated on a broad open expanse, and where the turf is singularly free from heather or bush of any kind. The two run parallel, or nearly so, with each other. The shorter is about nine chains, or twenty-two yards less than one furlong in length. It lies slightly to the north and south of due east and west, and terminates in a circle at the eastern extremity, the stones of the avenue are about one foot to eighteen inches above the surface, and run in pairs through the entire length. The western extremity terminates abruptly, and appears as if some portion had been removed. But a little out of the direct line and beyond the termination of the existing avenue, stands a small circle, which stood probably on the side, since it would require a curve in the arrangement of the stones to enable the two to meet. No such curve is known to exist in any of our stone avenues, and there is no reason to suppose that it did in this

* Merivale, *Rowe's Dartmoor*; *Merriville, Ordnance Map.*

instance, and, by comparison with the other, there is every reason to believe that it did not.

The second avenue lies to the south of the one described, at about the distance of twenty-eight yards. It lies nearly parallel, inclining imperceptibly a little more to the north and south. It is about eleven chains, or one furlong and twenty-two yards in length. It consists, like the former, of a series of stones in pairs about a yard distant from each other. In this avenue there is a circle in the centre in which are the remains of a kist-vaen, and another circle, some have thought, at the western extremity. The eastern extremity terminates in one large stone, being about five feet high, much larger than those that form the avenue. (pl. vii, fig. 3).

Towards the western extremity, and about five-and-twenty yards south of the longer avenue, can be recognised the spot on which a cairn once stood. Rowe, in his *Perambulation of Dartmoor*, writes of it as dilapidated in 1848. It is now entirely removed; a few stones marking the circumference demonstrate the proportion that it once occupied. The stones of this ancient relic were removed for the purpose of metalling the neighbouring highway. Nor is this the only instance of a similar depredation.

I recently observed that a cairn on Warren Tor had been almost carted away, the stones that formed the kistvaen being left, though displaced in the centre, and a few cart-loads of stones at one extremity. Seeing a newly-built house at a short distance, I presumed that the stones were removed for the purpose of being used in the erection, although, like the cairn at Merivale Bridge, they may have been used for mending the roads.

Also a cairn near the ruins marked in the Ordnance map as Kings-oven, has been almost all removed, leaving the kist-vaen in a broken and dilapidated condition exposed to view. The side stones still stand, the one upright, the other fallen inwards. These are about three and a half feet long and two and a half feet broad.

Stones still mark the site, and show the circumference to have been about sixty yards. The removal of these relics, without any record of the contents that may have been observed, is a thing to be deplored and protested against.

I think I am correct in my observation that all these avenues lie either in a direction north and south, or east and west; that those in the same locality generally point in one direction; that one has characteristics distinct from the other; that a kist-vaen is generally connected immediately with the avenues, covered by a cairn or exposed; and that there is always a cairn detached and not very distant from them.

Reading their history by the poor light we have, they appear to speak of people of common habits, the uniformity of which is varied somewhat in the different tribes, and the intimacy with which they were associated.

Thus the several avenues on Shuffledown all have a north and south direction, and differ from one another only in the arrangement of the kist-vaen at the southern extremity.

At Merivale Bridge both the avenues lie nearly east and west : they differ from each other, the one having the circle in the middle, and the other at its eastern extremity.

On Eylesborough Common the direction of the avenue is north and south. The stones are arranged in a single row. A cairn stands at the northern extremity in a circle, and another still larger some forty yards to the south.

The cairn at the avenue under Shell Top is very large in circumference.

Under Trowlesworthy Tor, like one of those at Merivale Bridge, the kist-vaen, if there be any, is sunk in the soil, and no cairn has been raised over it.

Here also the two avenues vary more than anywhere else, one running north-east and south-west, the other nearly east and west ; and under Black Tor the two avenues differ in one having a double, the other a single row of stones.

It would appear that connected with each there are two places of sepulture, the one within the sacred circle, the other in a distinct, separate, and much larger cairn, at a little distance. I take it that the kist-vaen within the circle held the remains of the honoured dead, their priests, their counsellors, their successful warriors ; that whenever they opened the kist to receive their ashes, they planted a single stone, or a pair of stones, according to the custom of the tribe, to commemorate to posterity a fact so worthy of record ; and fortunate will be those modern worthies whose monuments will endure so long.

It will be observed that many of the avenues are longer than others, in those avenues some stones are larger than others, and that many of the cairns are larger than others.

The larger stones, though not invariably, stand near the circle. I have thought that these important stones may commemorate the deaths of the first interred, or founders of the tribe, and that the others are evidence of the merits of the individual. The length of the avenue, therefore, records the number of individuals interred, and to a certain extent the duration of the tribe. The large cairn that stands apart is the burial place of the many. Their bodies were burned, and with each interment each mourner added his portion of stones to the common heap. In this way I think we may account for the many cairns that lie scattered over Dartmoor in an incomplete or apparently disturbed condition. The deep hollows in the centre of many may perhaps be the evidence of their progressive condition rather than that of their desecration. Many of these cairns entomb a kist-vaen, but this is not invariably the case. On the south-eastern slope of Pin-beacon there stands a dismantled cairn, the centre of which contains an oval chamber, which is six feet broad by twelve long. The wall that surrounds it still stands five feet and a half high. The passage leading to it, though partially destroyed at the entrance, must have been five-and-twenty feet long by four broad. A few feet from the entrance, on the right side, is a second chamber, having two sides at right angles and the third rounded. There is a small shelf in the middle of the curved or third side. There were probably other

chambers, where the stones have been removed, and some may still be under the undisturbed portion of the cairn.

The kist-vaen is generally found beneath a cairn but sometimes it is found uncovered in different parts of the moor. There is one under Hound Tor, about one furlong towards the south, within a circle of closely placed stones, of which a few only are missing. One side and one endstone are all that remain of the kist. These are, one six feet long, the other rather more than two feet.

Another of similar description exists in Longcombe (pl. iv. fig. 3). Here the kist is three feet long by two feet nine inches broad and four feet deep. All the stones are in their places, except that the coverstone of the kist has fallen in. It is enclosed within a circle of nine upright stones, placed a small distance apart from each other. Within the circle the kist appears to have been surrounded by smaller stones, so as to form an even surface on a level with the mouth of the kist.

Another uncovered specimen stands near the high road, between Princetown, and Swincombe, which is in a tolerably perfect condition.

Under Hessary Tor is one much dilapidated, and remarkable for being double kisted.

At Merivale Bridge, associated with the avenues on the southern side, a few yards to the west of the centre, and a yard or two from the line, are the remains of a cromlech (pl. vii, fig. 1.)

This relic, although it has long had the capstone or quoit removed, probably by the yielding of one of the side stones, had all its parts perfect until the last summer, when upon visiting it I found it had been cleft in two by the experienced hand of skilled labour.

It is hard to believe that it has been done for any other object than that of wantonness, for the poor and discoloured quality of the stone is so apparent that its uselessness must have been visible to those who are accustomed to work on granite. The two halves remain on the spot, having fallen but a few inches asunder, and it may not be difficult to restore them to their original position, and so preserve this fast-disappearing relic. Beneath the stones is a deep hollow, that may have been the result of exploration, but I am inclined to believe that it has been occasioned by the frequent presence of cattle seeking shelter, beneath the covered structure, from the inclemency of the weather. The moisture settling in the hollow renders the soil so soft that it has been readily beaten down; the foundations of the supporting stones of the cromlech have been weakened so that they have given way sufficiently to throw the quoit from its place.

The size of the quoit before it was broken was about ten feet and a half long and four feet and a half broad, supported on three upright stones about four feet in height.

This cromlech in its relation to the avenue is one of those specimens that it is hard to believe were ever entombed beneath a mound of earth.

Tumuli, or earth mounds, although common in Devonshire and Cornwall, are rare on the Dartmoor, where, stone being abundant is universally used. This cromlech stands on the same grassy plain as the stones that form the avenue. No change in the relation of the one to the other appears to have taken place in the long ages that have elapsed since their erection, while the small stones still stand upon the

turf and around the hut circles ; the small embankment that supported the stones still remains.

Cromlechs on Dartmoor are not numerous. It may perhaps be that many, like those at Merivale Bridge, have been thrown down and destroyed. This was the fate of the finest specimen in Devonshire. In February, 1862, the Drewsteignton cromlech (pl. vii, fig. 2,) was blown down by a heavy storm, and probably, like that at Merivale Bridge, would have so continued, until the farmer might have found it to be his interest to break it up and cart it away to mend the road or repair a cowshed. In 1862 the cromlech fell, and in 1863, in the month of November, it was restored through the zeal of Mr. Ormerod.

As now standing (pl. vii, fig. 2) two of the upright stones are placed under the quoit, near the margin, while the third is outside of it, the edge of the quoit resting in a notch about eight or ten inches from the top. This, I believe, is not the original position, but when it had been raised to this point the firmness of its bearing, together with the difficulty of moving so great a mass, induced the restorer to let it rest. The quoit or capstone is calculated to be about sixteen tons in weight ; it is about fifteen feet long, and ten feet wide, and stands about six feet from the ground. It is a fine specimen of the kind, and is, I believe, the only one in Devonshire that is still in a state of preservation. It is off the moor-land, and stands in a cultivated field which belongs to an estate that is known by the name of Shilston, which Polwhele considers and shows its derivation from *Shilston*, or *Shelving Stone*, the word "shelf" being commonly pronounced in Devonshire as "shelv."

This cromlech is known in the neighbourhood as "Spinster's Rock," in consequence of the tradition that it was erected by three spinsters one morning before breakfast. These, Rowe, in his *Perambulation of Dartmoor*, poetically interprets into the three fates who are doomed to weave the thread of destiny.

There are two or three other cromlechs on the moor, but they are in a more or less dilapidated condition. Besides the one mentioned in connection with the parallellitha at Merivale Bridge, there is another in the same locality, which Rowe in his *Perambulation of Dartmoor* considers to be the ruins of a cromlech. "Within an imperfect circle, consisting chiefly, though not entirely, of upright stones, with the advantage taken of the natural position of some huge blocks to enclose a space of nearly one hundred and seventy-five feet in diameter. At the upper eastern end is a vast block, large enough to form one of the interior sides of an enclosure, having remains of walls at right angles, suggesting the idea of a resemblance to the adytum within the Druidical circle near Keswick. Thirty feet from this enclosure a large quoit-like stone (sixteen feet by nine feet eight) and three others, have all the appearance of supporters with their impost." The place to which this refers is traced all over with the remains of ancient hut dwellings, and other enclosures,—so much so, that it is difficult to believe but that every stone has its unwritten historical relation to the rest.

When many stones are scattered about, of all sizes, it is easier to select those that will fulfil the conditions necessary to erect a crom-

lech, than to assert with confidence that they were once used for the purpose. Another specimen of the kind Rowe describes, with rather more show of probability, as being the remains of a dismantled cromlech.

About a hundred yards from the gate which separates that portion of Dartmoor, which is known as "Corydon Ball," from the cultivated lands through which a road leads to South Brent, may be observed several massive stones in which the investigator will have no difficulty in discovering unequivocal evidence of a cromlech once standing on this spot, but now in ruins, and apparently overthrown by intentional violence, as the supporters are not crippled under the imposts, as if pressed down by the superincumbent mass, but are lying in situations where they could not have accidentally fallen. The third supporter stands erect in its original position, of a pyramidal form, only four feet high and five feet wide in the broadest part. The impost, or quoit, is eleven feet long, five feet at the widest end, and fourteen inches in average thickness. There are no other stones scattered around, so as to lead to the supposition that these are only large masses of granite, among many others, naturally thrown into these positions. The height of the supporters of the overthrown cromlech appears more adapted to the purposes of a kistvaen than of a cromlech, and it may also be observed that the monument stood on the verge of a large cairn, about sixty yards in circumference, which probably entombed it. A few score yards S.S.E. are the evident remains of another cairn; both were removed, doubtless to assist in building the boundary-wall adjoining.

Between Shavercombe Head and Trowlsworthy there stands a dismantled cromlech, or large stone kist. The stones that built the kist are all there, but the huge coverstone has been thrown off and rests on its end. The cromlech stands within a circle, some of the stones of which have been removed. Near this stand a circle and other remains of interest; but the granite of this locality is compact and good, much of it is being worked for exportation, and woe to the pre-historic records that stand in the quarryman's path.

Returning to the associated relics at Merivale Bridge, there exists still farther to the south, at about one hundred and thirty yards from the large avenue, a circle of stones, about sixty-six feet in diameter; these stones are now only ten in number, and are about eighteen inches above the surface of the ground. The turf within the enclosure is level and smooth; being desirous of ascertaining whether or not the place had been used as a burial place by our pre-historic ancestors, I had a trench cut from the centre southwards to the circumference without discovering any signs that there ever had been any previous disturbance of the soil, although we went as deep as what is locally termed the pan,—that is, the ferruginous deposit that immediately overlies the unbroken granite rocks. About five-and-twenty yards still farther to the south stands a tall obelisk, or maen-hir. This stone, an upright pillar of unhewn granite, about twelve feet in height and about two feet in diameter, of an irregularly square form, stands in the centre of a circle of upright stones, most of which have been removed. When examining the place some time

since, two stones I observed in such peculiar proximity to each other that I expected to have found them to be the sides of an entombed kistvaen; I therefore had an excavation made until I came to a flat stone that from its relation to the others appeared to be the cover-stone of the kist, but its removal shewed the subsoil of the country.

Circles of stones such as these are to be found on several parts of the moor. That on Scorshill is one of the most perfect. There are thirty-one stones, all of which are in position excepting two which have fallen. Rowe says that there are thirty-seven, two of which have fallen.

At Fernworthy the circle is in a good state of preservation (pl. viii, fig. 1), one stone only being absent from the perfect number of twenty-seven stones.

Under Sittaford Tor there are near together two circles of stones, about five feet in height, known as the Greywethers; of these many are gone, some having been recently removed, the places on which they stood being not yet grown over with grass, for the purpose apparently of repairing the sides of a leat that runs a few yards off; some stones still lie upon the ground where they once stood; but in the two circles which once comprised twenty-seven stones in each, nine only remain in one and eleven in the other.

This double circle bears a resemblance to the Hurlers near the Cheese Wring in Cornwall. They are the only two approximating circles in the locality. On the right bank of the Erme is a circle of which nineteen stones are in position (pl. viii, fig. 2). They are mostly about two feet in height, with the exception of one that is about five feet. From this circle, which is evidently one of those recognised as "sacred", a single row of stones, about three feet distant from each other, extends northwards for about two miles. Over the moor in a direct line it leads, and in its path crosses the river in a diagonal course and goes up the side of the hill straight to the summit. The object of this long line we supposed to have been for the purpose of guidance in foggy weather from the sacred circle to the village where the inhabitants mostly dwelt. Other lines of stones, more or less resembling this, and always leading to a cairn or circle, but neither so long nor so important, are to be seen on Butterson Hill, between the Erme and the Avon; these are generally much dilapidated, mostly from weathering. There are others of the same description under Belstone Tor, known as Nine Stones, besides, probably, some that as yet have been unrecorded. These circles have long been known as temples, or sacred places, but Mr. Stuart has of late endeavoured to overthrow that belief; but surely if these old inhabitants had any sacred or mysterious rites, such circles were probably the sites.

In the neighbourhood of Corydon Ball there are the remains of an extensive avenue of which I know no similar one on Dartmoor. It evidently consisted of seven or eight rows, and extends at least for a hundred yards. Many of the stones are missing, and of those that remain many are small and unimportant, being almost entombed within the surrounding soil; at the eastern extremity about seven stones lie in a position relative to each other, that suggests the idea of their having been a portion of a circle of which the greater part

has been removed. These stones more than anything else reminded me of the Sarsden stones of Berkshire. A short distance from these stones are the remains of what must have been a huge cairn, beneath which must once have been hidden several large stones, evidently the parts of the fine cromlech or kistvaen previously mentioned; itself lying prostrate, while the stones that formed the cairn were used to build a neighbouring wall. This fallen cromlech as much as anything else, tells us that beneath the numerous cairns that are scattered over Dartmoor many such relics still lie entombed, the contents of which it would be desirable to have examined, as they may yet assist us to read an unwritten page in the history of the old people of Dartmoor.

EXPLANATION OF PLATES III TO VIII.

PLATE III.

- Fig. 1. Section of restored hut-dwelling on Dartmoor.
- Fig. 2. External view of restored hut-dwelling.
- Fig. 3. Hut built in wall of enclosed village at Yealm Head.
- Fig. 4. Hut-circle, with central group of stones, on Saddleborough.
- Fig. 5. Beehive hut on the Avon.
- Fig. 6. Beehive hut on the Erme.

PLATE IV.

- Fig. 1. Beehive hut, with short passage leading thereto, on the Avon.
- Fig. 2. Sectional elevation of beehive hut. (Supposed restoration.)
- Fig. 3. Kistvaen at Longcombe.
- Fig. 4. Ground plan of cairn under Shell Top.

PLATE V.

- Fig. 1. Plan of ancient military encampment on western slope of Trowlsworthy Tor.
- Fig. 2. Plan of parallellithon, and two walled villages near Erme Head.
- Fig. 3. Structure of wall at Erme Head.
- Fig. 4. Structure of wall of walled village at Yealm Head.

PLATE VI.

- Fig. 1. Parallellitha at Merivale Bridge.
- Fig. 2. Cromlech near Trowlsworthy Tor. (Restored.)

PLATE VII.

- Fig. 1. Cromlech at Merivale Bridge. (Restored).
- Fig. 2. Cromlech at Drewsteignton.
- Fig. 3. Menhir, circle, and parallellithon at Merrivale Bridge.

PLATE VIII.

- Fig. 1. Circle at Fernworthy.
- Fig. 2. Circle on Staldon Moor.

DISCUSSION.

MR. WALTER MORRISON, M.P., called attention to the analogy between the architectural character of the old Dartmoor huts and of those which are to be seen at the present day in the Hebrides. In each are found the two concentric circles of stones, filled in with peat, and with a roof of drift or other timber thatched with peat. Mr. Bate's suggested restoration of the old Dartmoor huts might stand for a representation of a modern Hebridean cabin. Were then the dwellers in the Dartmoor huts Celts, as the inhabitants of the Hebrides were Celts, with a large admixture of Norse blood? But the circular form of hut is so common in all parts of the world that little could be



Fig. 1.

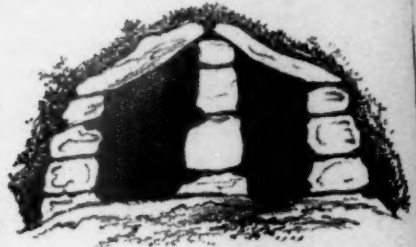


Fig. 2.



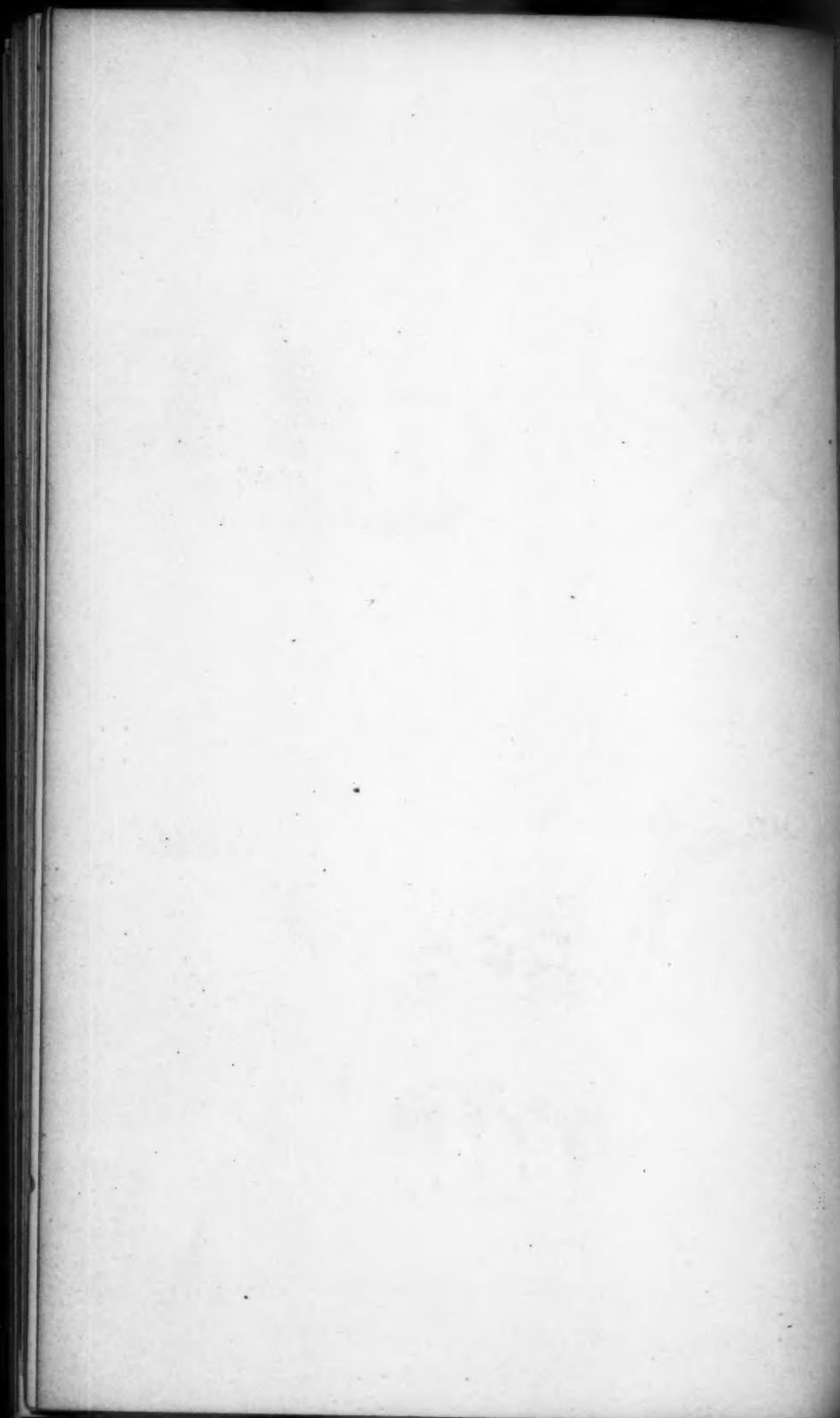
Fig. 3.



Fig. 4.

Hall, Bro. Lith. London.

HUTS, KIST-VAEN &c. ON DARTMOOR.



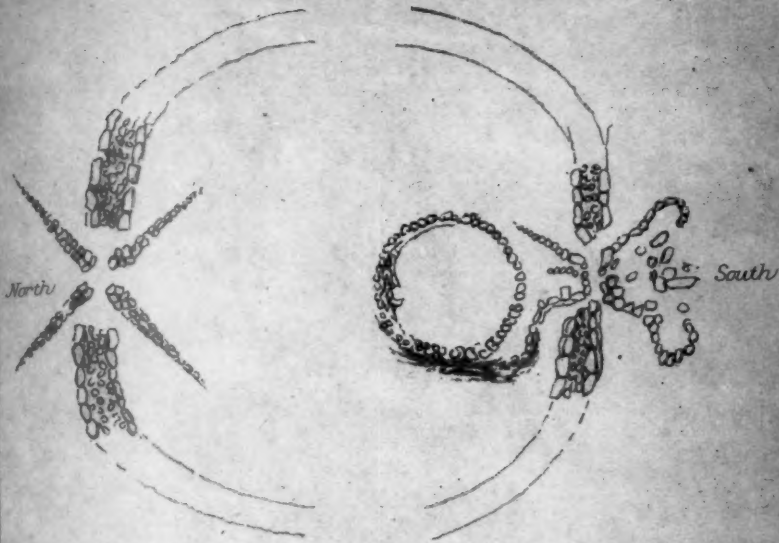


Fig. 1.

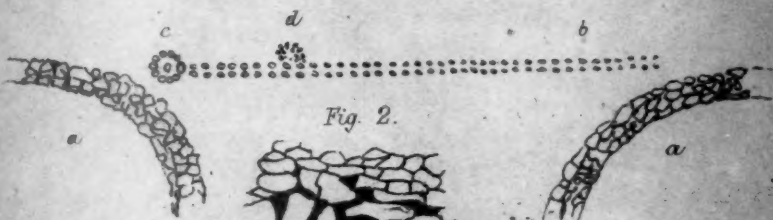


Fig. 2.



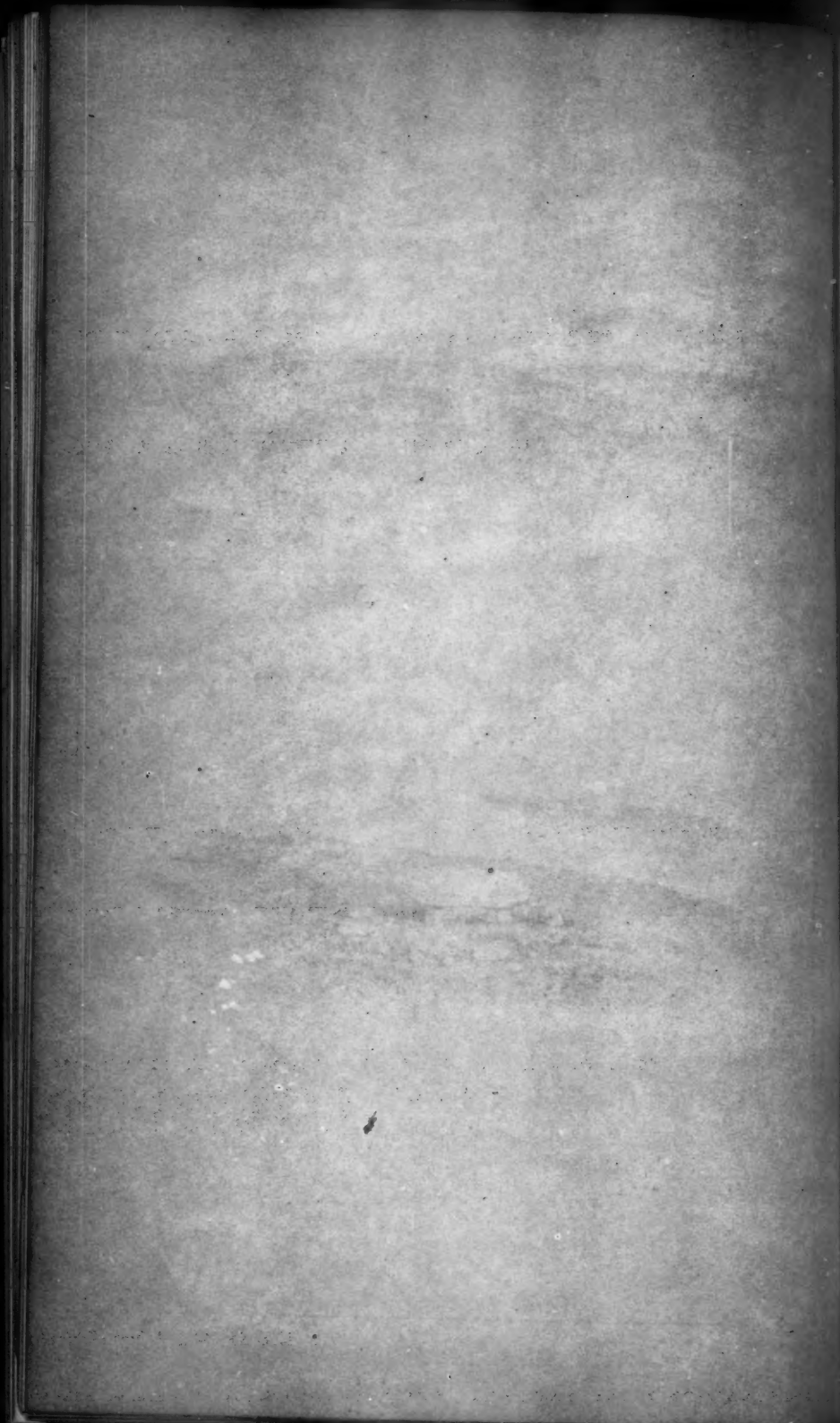
Fig. 3.



Fig. 4.

Edw. Bro. Lith. London.

ANCIENT STRUCTURES ON DARTMOOR.



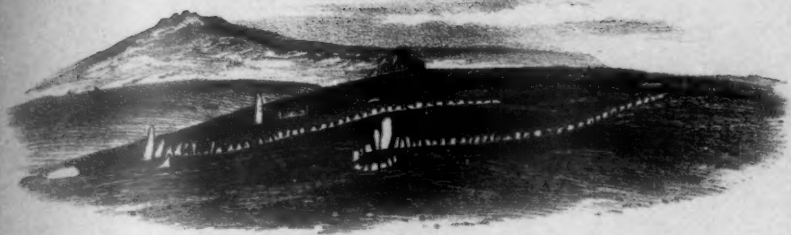


Fig. 1.

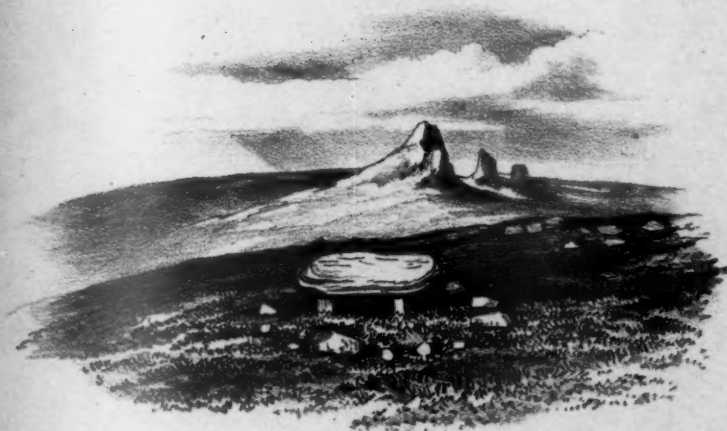


Fig. 2.

Kelly, Bro. Lith. London.

PARALLELLITHA & CROMLECH ON DARTMOOR.

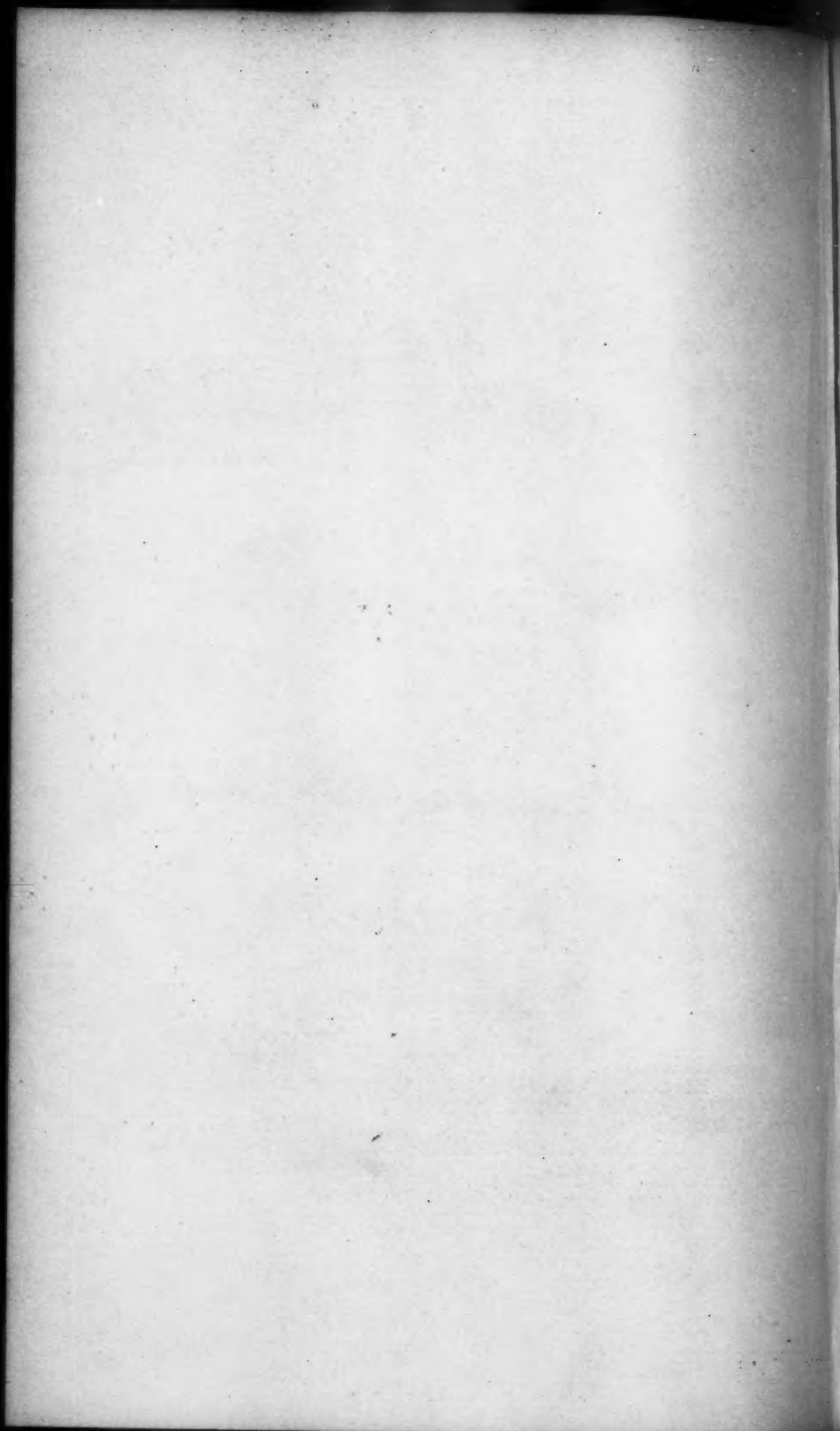




Fig. 1.



Fig. 2.

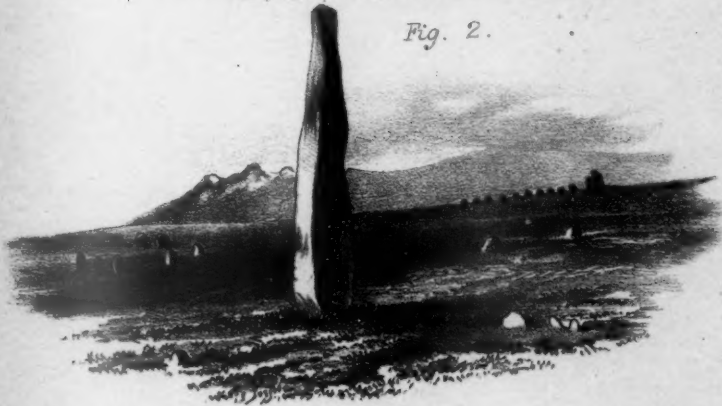


Fig. 3.

Hall, Bro. Lith. London.

CROMLECHS MENHIR &c. ON DARTMOOR.

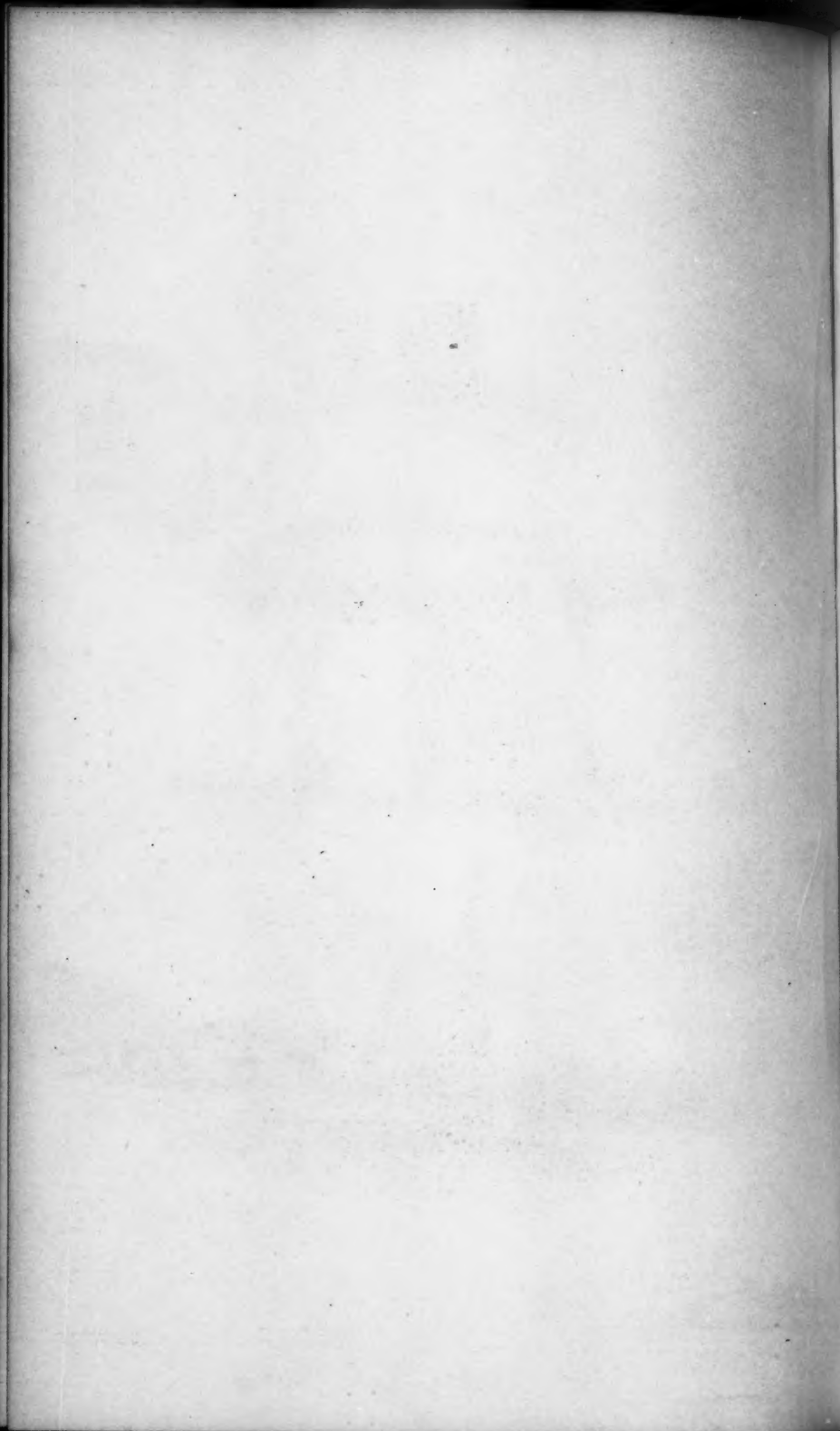




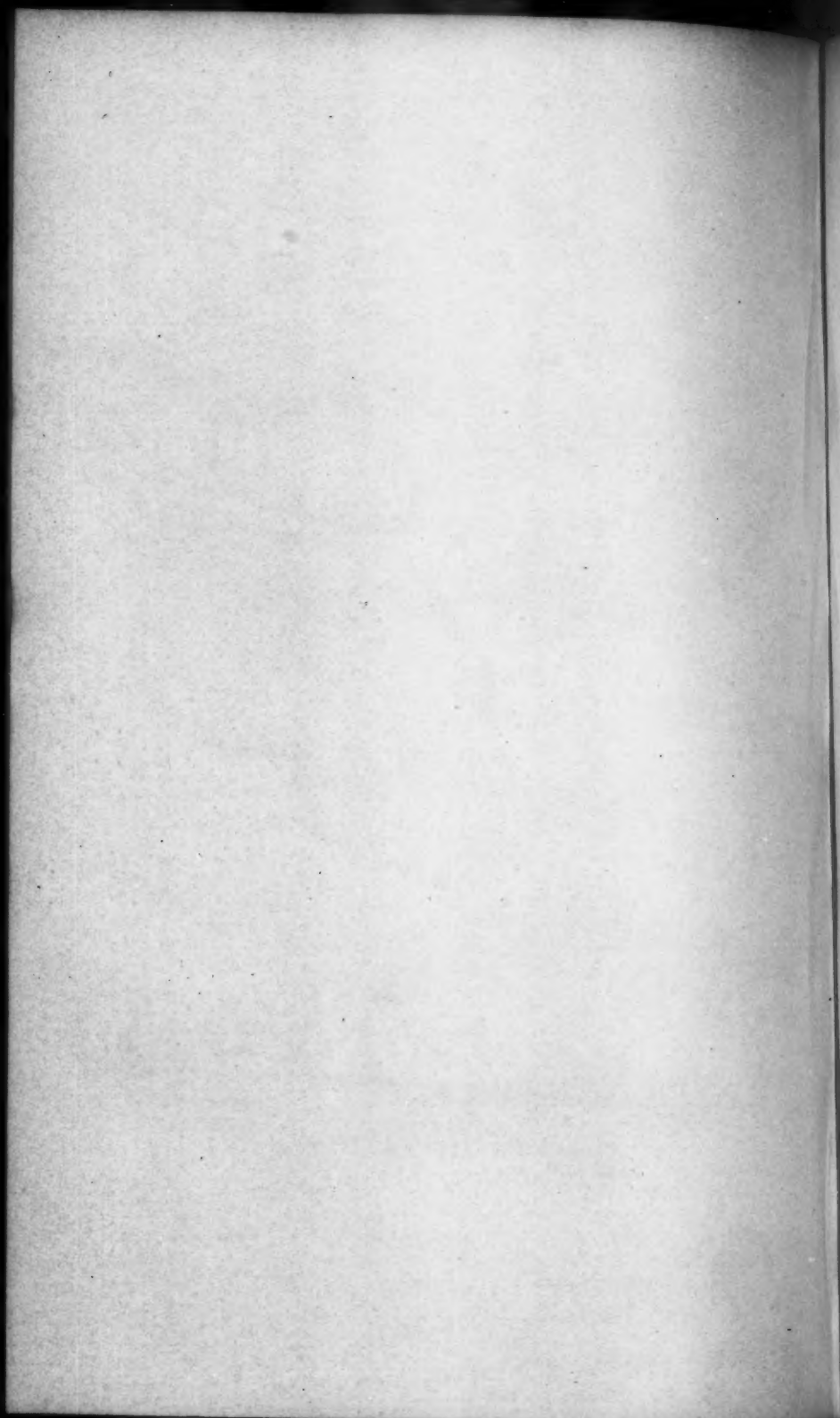
Fig. 1.



Fig. 2.

Kell, Bro. Lith. London.

STONE CIRCLES ON DARTMOOR.



founded on that fact. These Dartmoor villages and huts, however, were usually connected with ancient tin workings. The old legends of Europe seemed to connect with the arts of metallurgy the dwarfs, who, perhaps, could be identified with the small dark-skinned races allied to the Lapps and Basques, and of whom traces are to be found in many corners of Europe. Some of these Dartmoor huts might be, no doubt, comparatively modern, but the stone avenues and circles in connection with others pointed to a distant antiquity, at least as old as the Roman occupation.

DR. A. CAMPBELL, V.P., said, that the long rows of loose stones described by Mr. Bate appeared to him to be indisputable signs of cultivation, as they were in many parts of the Highlands of Scotland, and in the Himalaya mountains, where the level land was scanty and the soil was poor and encumbered with stones. Whether they were evidence of cultivation in very ancient times, or within a legendary or more recent period, was the question of importance to be solved.

MR. MOGGRIDGE made some remarks in reference to the orientation of the ancient hut circles, which, though generally on south-eastern slopes, are not uniformly so placed. One of the Precilly hills, in Pembrokeshire, is crowned by a fine old British camp. Both within and without the lines of fortification are many of these circles. The ground slopes to different points of the compass, and the entrance is at the lowest part of the circle; indeed, this could hardly be otherwise, or the dwelling would be flooded in heavy rains. The same, to a smaller extent, may be seen at Mynydd Carn Goch, in Carmarthenshire.

MR. A. L. LEWIS observed that there were avenues of stones in Shetland similar to those described by the author, some of which were in connection with tumuli and others were not. Referring to the fact noticed by the Author, that these avenues all ran in certain special directions by compass, he pointed out that most of the circles had a single stone outside in a north-easterly direction (besides others frequently lying to the south). These detached stones were of the greatest importance, as they proved a unity of purpose, not only between the various circles in Britain, but between them and those in India, which were known to be used for sacrifice, and had similar outlying stones. This coincidence had not been much noticed, and it had consequently happened that the outlying stones had been frequently overlooked altogether, although, in a certain sense, of more importance than all the other stones together. The depressions in the tops of some of the cairns, he said, were probably caused by the falling in of the kists beneath. He had long been of opinion that the dolmens were not all originally covered, or, indeed, sepulchral. The "Spinster," at Drewsteignton, for instance, was not suitable for a sepulchral chamber, nor had any interment been found beneath it, and it was therefore reasonable to suppose that its object was not sepulchral, but perhaps sacrificial, or monumental.

COL. LANE FOX, MR. BLACK, and DR. CAMPBELL also joined in the discussion, and MR. SPENCE BATE briefly replied.

JANUARY 10TH, 1871.

PROFESSOR T. H. HUXLEY, LL.D., F.R.S., PRESIDENT, IN THE CHAIR.

The minutes of the last meeting were read and confirmed.

The following new Fellow was announced : FRANCIS HEWITT, Esq.,
Lawn Court, Richmond Road, New Barnet.

Dr. J. D. HOOKER, C.B., exhibited several stone implements from
Maasset Harbour, Queen Charlotte's Island ; and a stone arrow-head
from Cloverdale, Vancouver's Island.

Colonel A. LANE FOX exhibited some artificially-distorted skulls
from Vancouver's Island.

The following paper was read :

XIII.—*On the PREHISTORIC REMAINS in BRITTANY.* By Lieut. S. P.
OLIVER, R.A., F.R.G.S., Corresponding Member of the Ethnological
Society of London.

CONTENTS.

- i. Introduction.
- ii. Alignments and Circles of Carnac.
- iii. Alignments of Crozon near Brest.
- iv. On the connection between these alignments and other megalithic
remains in their neighbourhood.
- v. Characteristic features of tumuli.
- vi. Predominance of fibrolite celts in interior finds.

§ I. *Introduction.*—The *Société Polymathique*, of the department of
the Morbihan, has for many years been occupied in the exploration
of the numerous dolmens and tumuli in the surrounding district,
and from time to time has published various pamphlets (written principally
by Messrs. Gallez and De Cussé), from which much interesting
matter and information may be gleaned.

By the exertions of the same society a small, but well-selected,
museum of objects found within the dolmens has been formed at
Vannes, which well repays a visit from the student of prehistoric
archæology, the contents being carefully assorted with regard to the
localities in which they were found.

Unfortunately, the French *savans* appear to have confined their
labours to the contents and interior-finds of the dolmens, and have
contributed but little to our knowledge of the structures themselves
(many of which indeed have been ruined by the workmen employed
to rifle them of their treasure) ; whilst hitherto, beyond a few vague
speculations, they have altogether neglected the much-required exami-
nation of the vast circles and alignments of stones which are amongst
the most conspicuous and renowned relics of prehistoric times in
Brittany.

It is only recently that a useful map (on a convenient scale) of the
coasts and inland archipelago, as it may be termed, of the Golfe du
Morbihan has been published by Mons. Bassac—a map which, as

regards all the information topographical or archæological which it professes to give, is fairly accurate; but this information is confined solely to the actual vicinity of the coast-line of the gulf; and it is much to be feared that the present national troubles will retard the publication of additional sheets for some considerable time.

Looking at this map we are instantly struck with the enormous number of the dolmens scattered broadcast, as it were, over the country; but, on observing closely, it will be noticed that they are more particularly numerous on the sea-coast and river-bank. Indeed, there is hardly a headland throughout the coasts of the Morbihan and Finistère without its tumulus, cromlech, or menhir.

Confining ourselves to M. Bassac's map, it is noticeable that the western coasts of the gulf, between *Vannes* and *Locmariaker*, with the adjacent islands, as well as both promontories forming the narrow entrance to the *little sea*, are conspicuous for the number of these same dolmens and peulvans; whilst on the eastern coast, between *Larzeau*, *St. Colombière*, and *Noyalo*, there are absolutely none,—a fact to which we shall shortly refer again.

It is also evident that there are no alignments of peulvans or avenues of upright stones found east of the *Crach* river, although circles without associated avenues are found both on the *Ile aux Moines* and on the *Ile du Tisserand*.*

With the exception of the avenues west of the *Crach* river, the most important aggregation of dolmens and the largest menhirs (one indeed the largest known, viz., *Le Grand Menhir*, seventy feet in length) is to be found on the promontory of *Locmariaker*, between the tidal estuaries known as the *Rivière d'Auray* and the *Rivière du Crach*. It is near here also, on the neighbouring island of *Gavr'Inis* and at *Petit Mont* on the opposite promontory of *Arzon*, that the ornamentation of the interior of the dolmens by archaic sculpture has been most elaborately developed.

The celebrated stone avenues of Carnac consist of a series of *Alignments* in the commune of that name, and, according to M. Bassac, extend from the borders of the Commune of *Trinité*, at the north-eastern extremity, with (according to the map) a continuous winding course to a spot some two miles and a half to the south-west, between the villages of *Carnac* and *Plouharnel*. But although this is almost the sole example of inaccuracy of the compiler of the map, still it is an unfortunate one; for M. Bassac has fallen into the same error which has hitherto misled most, or rather all, the writers and topographers preceding him.

It has always been taken for granted that these alignments were continuous, and it is to the careful measurement and plans of the Rev. W. Lukis that we are indebted for his first discovery, that there are intervals between these lines, which, in fact, consist of three separate sets or groups, each totally distinct from the others.

For three or four successive seasons the Rev. W. Lukis, assisted by

* Mr. W. C. Lukis mentions a portion of a circle as existing on the *Ile el-Lanic*, which name is not marked on the map; it is probably identical with the *Ile du Tisserand*.

Sir H. Dryden, Bart., has been steadily at work surveying and plotting out these alignments, and the results of his labours have dispelled many erroneous ideas with which most visitors have been carefully impressed from the perusal of all former descriptions of these monuments.

In the mean time let us pursue our topographical survey of the position of the other similar remains, after which we will return to describe the Carnac lines themselves in detail. Two miles distant from the Carnac lines, in a north-west direction, is a group of alignments near the village of St. Barbe, and two miles again to the north of these, is a most important series of lines near Erdeven. The last group which may be considered as belonging to this immediate district, is the remarkable group of lines at St. Pierre, on the sandy peninsula of Quiberon, about two miles south of Fort Penthièvre. Not that these are all the alignments to be found in Brittany; on the contrary, there are several others to be found in the same department, as at Plouhinec, and somewhat similar remains, although on a smaller scale, exist at St. Juste, in the department of the Ile-et-Vilaine, and others on the peninsula of Crozon, south of Brest, in Finistère, which however are but little visited, and scarcely known to the neighbouring residents.

The table on the opposite page gives the relative size, position, etc., of the principal alignments in Brittany, twelve in number.

Besides these said alignments, which still exist in their proximate original position, there are also found throughout Brittany various confused assemblages of large stones, termed *Carneilloux* (Celts-Breton for Burying-grounds), which, although they are often looked upon as belonging to a separate class of monuments, are doubtless only the ruined remains of alignments, or circles, or both combined; for we have only to look at the western extremity of the Erdeven lines to see how, in modern times, the regular alignments have been converted into a confused ruin. The high road, which by a slight diversion might have been made to avoid the remains of the most gigantic of all the known alignments, has been ruthlessly carried straight through the most interesting portion of the monument, and the huge stones cast aside out of the way, so that it is impossible to discover their original position. The huge blocks thus rudely disturbed, present to the view a distressing ruin; their enormous size, however, attests to the former magnificence of what must have been an imposing monument in its primal state.

Mr. Lukis has called the attention of the Morbihan Society to the work of destruction that is taking place amongst these structures, "thereby rendering the problem of their construction and destination more and more difficult of solution," and lately a memorial (signed by Sir John Lubbock, on behalf of the Committee of the International Congress of Prehistoric Archaeology) has been forwarded to the Prefet of the Morbihan on the subject. The late Imperial Government certainly went so far as to order the preservation of, or rather to interdict, the demolition of these national monuments, but, at the same time, the local authorities have been only too neglectful of enforcing this interdict; and the most flagrant case of destruction which actually

*The Principal Alignments in Brittany.**

Name of monument.	No.	Local name.	Description.	Length in yards.	Breadth in feet.		Diameter of circle.	Remarks.
					West.	East.		
MORBIHAN.	1	MENEZ.	Eleven lines of stones with circle at W.	1000	330	195	290	Ends apparently certain.
	2	KEEVARIO.	Ten lines.	1250	323	180	..	E. end undefined.
	3	KEELESOANT.	Thirteen lines extremely convergent, and Horseshoe enclosure at W.	285	450	205	300	Ends well defined.
	4	St. BARBE.	Three lines remaining, original number uncertain.	300	125	..	..	E. end undefined.
	5	ERDEVEN.	Ten lines nearly parallel, with a diagonal line at N.W.	2680	220	190	..	Ends certain. Gap for some distance about centre of lines.
FINISTÈRE.	6	St. PIERRE.	Five lines, the circle distant 290 ft. to the S.W. of the head.	210	110	..	180	W. end certain, E. end terminated by sea-coast.
	7	POUTHINEC.	Eight lines.	150	240	..	..	Ends uncertain, much scattered.
	8	CEUCUNT.	..	..	..	..	..	Not measured.
	9	KERDOUADEC.	Two lines, with nondescript enclosure and divisions.	350	..	..	..	Ends not defined.
	10	LEURÉ.	One long line and a short one at right angles to it.	172	..	..	..	Ends not defined.
	11	LOGATJAR.	One long line and two short ones at right angles to it.	267	..	..	..	Ends apparently certain.
	12	COSOU.	Two parallel lines.	140	80	..	..	A great part destroyed.
ILE ET VILAIN.								

* The direction of most of these alignments is given in plate ix.

came under our eyes this last summer, was the gratuitous tumbling down of portions of the avenues of Menec, by the workmen employed by the authorities of the department themselves on the road between Carnac and Auray.

Besides these *Carneilloux*, De Freminville and other French authors allude to many analogous remains, indiscriminately, as *Cimitières Celtiques*.

§ II. *The Alignments and Circles of Carnac and its Neighbourhood.*—The famous lines of Carnac are, as before mentioned, reducible to three groups, which are named for convenience, after the villages, farms, and homesteads, nearest to them, viz., the lines of *Menec*, *Kermario*, or *Kervario*, and *Kerlescant*. It is, however, more than probable that these farms and properties acquired their names from the circumstance of the stones standing on the land belonging to them; according to Lepelletier's *Celto-Breton Dictionary* the word *Menec* signifies a memorial or *souvenir*, and *Kervaro* (*Kervario*) the place of death. The words *Carnac* and *Carneilloux* are similarly identified with Celtic words signifying a charnel-house or ossuary.

Commencing with the group nearest Carnac, we find a circle of stones, or rather the remains of one, on a slight elevation, enclosing several of the farm-buildings and dwellings of the village of Menec; this enclosure is somewhat elliptical, its largest diameter being ninety-two yards, and its shortest eighty yards across. This circle forms the south-western limit of a series of eleven stone alignments, forming ten avenues, stretching from this eminence in a north-easterly direction, over undulating ground, sloping generally to a lower level, for a distance of one thousand and twenty-five yards. The southernmost lines of these alone meet the circle, the remainder terminating abruptly. The breadth of these avenues at their termination nearest the circle averages eleven yards, but the lines forming them are not parallelliths, as they converge gradually towards the north-eastern termination to half the width, viz., from five to six yards; the size also of the stone pillars which compose the lines diminishes by degrees to an insignificant size in comparison with the fine blocks at the west, although at the verge of the north-eastern limit are some slightly larger stones. The largest stones in this group measure 14 ft. \times 12 ft. \times 5 ft., 9 ft. 6 in. \times 9 ft. 3 in. \times 4 ft., etc.

The next group we come to, that of *Kervario*, has its largest blocks (the largest in the three groups near Carnac, some measuring 20 ft. \times 12 ft. 6 in. \times 8 ft.; 17 ft. 6 in. \times 9 ft. 6 in. \times 5 ft.; 7 ft. high, 42 ft. in circumference, etc.) on a considerable eminence, about six hundred yards to the north-east of the *Menec* lines just described, and in almost the same line with them,—a fact which has led people to suppose that they were in continuation of, and part of the same system, ignoring the palpable interval between the separate groups.* Here there is no terminal circle, as at *Menec*, at present; but some scattered masses of no inconsiderable size may perhaps indicate vestiges of an enclosure as having formerly existed. But it is also possible to look upon these erratic blocks as having been dropped and

* Sir Henry Dryden and the author measured this group in June 1870.

deserted in transit towards their contemplated position. The Kervario group also differs from the Menec group, in having only ten lines of stones, forming, however, similar converging avenues, although of greater length and importance; they extend from their south-western extremity, where they are twelve yards in width, in a general north-easterly direction, down a gentle slope, up the rise, and across the highest point of another hill, on the summit of which and in the midst of the lines, stands the *Moulin des Kernaux*, they descend across the *lande* into a valley, and across a small brook, and ascend another sloping hill where their uncertain termination is lost in the fields and pine plantations of the *Château de Kercado*. The total length of these lines is about twelve hundred and fifty yards. It must be borne in mind that these lines are not absolutely straight, but that at each crest of hill, or hollow of brook, or change of level, there is generally observable some slight deviation in direction, which has probably arisen from error in the original laying out of the lines, and not from any intention of forming them with a serpentine trace on the part of their original constructors, as some writers would have us to believe. There is one fact, however, which their small deflections prove, and that is that the country presented the same features and outline of contour when these alignments were planned as at present; at all events that its character cannot have materially altered since those days.

The third group to be described, viz., the *Kerlescant lines*, is four hundred yards beyond the last series, and differs considerably both from the *Kervario* and *Menec* monuments. Here there is a terminating enclosure (somewhat of horse-shoe form rather than a complete circle), having a diameter of ninety-six yards, and associated with thirteen lines of stones extending in much the same direction as the last named groups, i. e., to the north-east, but much shorter than they are, in fact, one quarter of their length, two hundred and eighty-six yards, and yet the breadth at the western end is as broad as the Menec series, viz., one hundred and ten yards, giving to each avenue an average breadth of nine yards, which rapidly converges to five yards at the north-east extremity, which is extremely abrupt and well defined. The eight southern lines alone are opposite the horse-shoe enclosure, whilst in a corresponding position, opposite the five northern lines, is a long unchambered barrow, with a conspicuous menhir at its western extremity. Again, the avenue between the fifth and sixth lines is of a greater width throughout its entire length than the others, the lines composing it being nearly parallel.

There is also a certain symmetry observable, taking the whole thirteen lines together, there being a centre group of three lines, on either side of which is a broader avenue tolerably parallel; beyond, again, on either side is a group of five lines converging, the breadths between which are largest on the outermost side.

Such is the description of the celebrated Carnac lines; but before we consider their characteristic features, it may be as well to give a short account of some other alignments which lie in the immediate neighbourhood.

The most extensive of all the lines as to length, is to be found not far from the village of *Erdeven*. This series stretches from the road south of the village towards the south-east, for a distance of over a mile and a half. There are, as far as can be made out (for there is sometimes considerable difficulty in tracing the separate lines), ten lines of stones nearly parallel; their convergence is but slight, their breadth at the western extremity being two hundred and twenty, while at the eastern end it is one hundred and ninety feet. But it must be remembered that these alignments are not actually traceable throughout the whole extent of this long tract of land; on the contrary, about half way there is an eminence upon which are four dolmens and a long barrow, and here all traces of the line are confused and lost for some distance, but the same number of lines occur again further east, and continue to a spot not far from the huge dolmen of *Courconneau*, and it is presumed that these lines formed a continuation of the same series. There is a slight deviation between the direction of the eastern and western portions, but only of three degs., the western portion being 117 degs., and the eastern 120 degs. to east of the meridian.

From near the head of these lines is an alignment consisting of twenty-five stones, extending in a north-east direction (42 degs. east of north) for a distance of three hundred and fifty-four feet. The stones are at present all prostrate, excepting erect menhirs at either end. They are all large stones, in fact, the largest in bulk to be found throughout the whole series of alignments in Brittany, the largest measures twenty-one feet six inches long, by ten feet broad, and five feet thick; two other blocks lying close alongside this stone, are within a few feet of the same dimensions.

What the meaning of this diagonal line, outlying the main body of the *Erdeven* lines can be, must be a mere matter of conjecture. It is certain that the blocks lie close together, as those composing the circles at *Menec* and *Kerlescant*; if this, therefore, was a portion of a circle, it is the sole example of one found north of the accompanying lines. At the eastern extremity of the lines, but at a small distance, is an enclosure of stones nearly oblong, measuring one hundred feet long by eighty-five broad.

The *St. Barbe* lines are not a very remarkable group. Here traces of *three* lines exist for a distance of three hundred yards. A few of the stones at the head of these lines are of great bulk, the two largest measuring fourteen feet high each, and twelve feet broad, and seven feet thick in one instance, and eleven feet broad by four feet seven inches thick in the other. At a short distance to the west of these alignments are four stones, which may indicate vestiges of a circle, but they are very doubtful.

Eastward again, and at some considerable distance, are three conspicuous stones near the mill of *Plouharnel*. They are called "*Les trois pierres du vieux moulin*." The largest is prostrate, and measures sixteen feet long, eleven feet broad, and five feet thick. The two others standing are respectively twelve and eight feet in height. It is possible that they originally formed the head of a group of alignments.

At *Kerzine*, near *Plouhinec*, are eight lines of stones in a very dilapidated state, extending one hundred and fifty yards, whilst in the same neighbourhood, at *Keroenthue*, is a line of four large stones, with a detached one at some distance: the largest of these measures sixteen feet long by nine feet broad and five thick.

On the sandy spit of *Quiberon*, south of *Fort Penthièvre*, are the alignments of *St. Pierre*. They are remarkable as being detached from the neighbouring circle, which stands ninety-five yards to the south-west of them. Traces of only five lines now remain, some of which extend a distance of two hundred yards to the coast line, and possibly before the encroachment of the sea they extended still further.

We will now proceed to consider certain noticeable facts which Mr. Lukis has established in connection with the principal features of these great monuments. (*Vide* "The Stone Avenues of Carnac," a paper read at the Blackmore Museum at the meeting of the Wiltshire Archaeological Society, 1870, by the Rev. W. C. Lukis, M.A., F.S.A., etc.) They are as follows:—

1. "The lines do not lie strictly east and west, but vary a little to the north and south."
2. "The narrow end is invariably eastward, and the head or wide part is toward the west end, and on elevated ground."

Referring to these features further on, Mr. Lukis remarks,—

"There is a feature which is common both to groups of rows of stones and to the sepulchres which may help to throw some light on the subject, viz. their *orientation*. By far the larger number of the sepulchral monuments, those I mean which are usually termed dolmens, have their entrances between the east and south points of the compass, i.e., nearly ninety per cent are so turned, which it must be admitted cannot be an accidental circumstance. So, too, the avenues are *similarly orientated*. If, therefore, the builders of the tombs had a religious reason for this arrangement, the same motive must have been dominant in the minds of the constructors of the avenues; and the inference is not without force, that the *same people erected both*. This arrangement may be a token of their religious reverence for the deified orbs of heaven, the sun and moon."

To this we would add, that this *orientation*, which is attributed to all these monuments, is well substantiated as regards the dolmens and tumuli; but on looking at Sir Henry Dryden's map of the Carnac district (see pl. ix), and the position of the stone avenues shown thereon, we cannot fail to remark that the lines of *St. Barbe* and *St. Pierre* are at a very considerable angle to the direction of those of *Menec* and *Kervario*; and again, whilst the prevailing point of the entrance to the dolmens is south-east, the general direction of two of the three *Carnac* groups of alignments is considerably north of east. The alignment of *Gatjar*, on the promontory of *Crozon*, presently to be described, cannot well be termed *orientated*. (Compare the points of the compass given in the table of principal alignments.)

3. "The stones are always largest at the western termination, and of small size in the other direction. In the *Menec* and *Erdeven* groups

however, the stones slightly increase in size towards their commencement."

4. "Where there are circles connected with the lines, they are always at the large end."

5. "The circles are composed of stones differing in form from those of the lines. They are thin and wide, and not so tall as the tallest of the lines, averaging about five feet above ground."

6. "The stones of the circles nearly touch each other, whereas those of the lines have spaces of from seven to twenty feet between them."

7. "The average distance between the lines at the west end is thirty feet, at the east end eighteen feet."

8. "In no case is there, strictly speaking, an attachment of the circle to the lines."

Further, it appears probable to Mr. Lukis, "that the number of the lines in each series was determined at first, and the whole number begun at once. The size of the stones indicates this. Again, he presumes, "that they were begun at the west end. Probably in all cases the circles were added last, at least after the wider or west portion of the series had been erected: because at *St. Pierre*, *Quiberon*, the circle is seventy-seven yards on the south side of the lines, at *Menec* the centre of the circle is south of the direction of the central avenue, and at *Kerlescant* it is a large segment, and not a complete circle."

We do not quite follow Mr. Lukis in the last observations; for does not the separation of the circle from the head of the lines at *St. Pierre* rather intimate a certain independence of the two monuments? or again, perhaps, indicate a bifold arrangement, similar somewhat to that previously noticed in this paper as occurring, either accidentally or intentionally, at *Kerlescant*? Supposing that eight additional lines ran easterly from the *St. Pierre* circle, we should have an almost parallel example to those at *Kerlescant* and *Menec*.

The plan of the *Kerlescant* monument is evidently the most complete example remaining to us, exhibiting, besides its remarkable symmetry of design, an intelligible ending or finish, viz. a series of avenues terminating in a circle, close alongside of a smaller but similar series leading up to a sepulchral barrow. Nowhere else do we find complete circles, tumuli, and lines associated together. We meet with lines without circles (see the table, p. cxxv), although traces of circles may yet be discovered in connection with them, but seldom circles without lines. Two instances alone of these latter are given by Mr. Lukis, one on the *Ile aux Moines* and the other on the *Ile El-Lanic*; but as the sea has encroached on the south-east side of this latter island, so as to have washed away a considerable portion of the circle itself, some of the stones composing it being yet visible below low-water mark, so probably there formerly existed avenues leading to it.

Mr. Lukis, after recapitulating the various theories, absurd as well as ingenious, which have been put forth by way of accounting for these monuments, and deprecating the proneness of the native archaeologists to dogmatise upon their intended uses and destination without a sufficient knowledge of their construction, partly agrees with Mr. Stuart,

of Edinburgh, as to circles of stones not being temples, but sepulchral enclosures, but states that as yet there is but insufficient evidence to shew that the terminating circles of *Menec* and *Kerlescant* were used as burial places, although Mr. Lukis himself found in 1869 fragments of coarse clay vessels, flint scrapers and chippings, within the area of the latter circle.

Mr. Lukis comes to the following conclusion :—" *It is possible, therefore, that groups of pillars arranged in lines and in circles, and associated together, may have served a purpose in some way connected with the funeral rites or solemnities that preceded interment.*"

Since the above was written Mr. Lukis has measured the stone circle at Keswick. Within this circle, and touching it, is an internal structure which has every appearance of having served as a sepulchre. It may or may not be contemporary with the circle, but Mr. Lukis' own impression is that it belongs to the original plan, and, if so, tends to confirm Mr. Stuart's view that these circles are sepulchral.

In order more fully to gain any clue which may help the proper interpretation of these mysterious monuments, it is necessary to compare parallel remains of a coeval period, as well as to find, if possible, any similar modern examples in other countries; and first we may take the somewhat analogous example of the Avebury circles, also treated of in Mr. Lukis' paper before mentioned.

Mr. Lukis, having shewn conclusively that the lines of Carnac constitute, not one monument, but three groups, perfectly distinct from one another, proceeds to compare them with Avebury. He remarks that now there is very little clue to its original plan, and that we are compelled to accept the inaccurate drawings of antiquaries of the seventeenth and early part of the eighteenth centuries. Whilst he confesses himself sceptical with regard to the ground plan of Avebury as given by Stukeley, his doubt is strengthened by his intimate acquaintance with the Carnac and other groups of stone lines in Brittany. He prefers the more careful drawing in the plans of Aubrey to the fanciful restoration of Stukeley, and gives as his opinion that the remains at Avebury were originally *three* distinct monuments, viz. one group of concentric circles and short avenue on Overton hill, the second of the larger circles and avenue of Avebury, whilst the third monument of like character, *i. e.*, composed of rows of stones associated with a circle, lay on the Beckhampton side. Mr. Lukis, however, feels that he has very little evidence in support of his views, with which, however, he will find many archaeologists ready to agree. Beyond the fact that in both the Avebury and Carnac remains circles are associated with avenues, Mr. Lukis finds the points of resemblance few and faint, and the points of dissimilarity numerous and strong. However, as one point of resemblance, he states that in Brittany the circular inclosure is invariably situated on an elevation, or on the summit of gently rising ground. In Wiltshire one set of concentric circles is on Overton hill, and the great circle of Avebury is also on a gentle elevation. Thus far, although the comparison of Avebury has not done much towards the elucidation of

Carnac, yet the example of Carnac has taught us to look at Avebury in a new light.

Among the points of dissimilarity are the following, viz.—At Carnac there are many—ten, eleven, and even thirteen rows of stones; at Avebury there were never more than two. With the Brittany circles there is no vallum or fosse, nor are there any concentric circles, all of which features appear to be characteristic of the Wiltshire remains.

Sir Gardner Wilkinson describes the stone lines of Dartmoor as leading up to concentric circles with cromlechs or kists, and as therefore being in some way connected with sepulchral and religious rites. Again, Mr. Spence Bate, in his supplementary report on the prehistoric remains of Dartmoor, mentions an extensive avenue in the neighbourhood of Corydon Ball, consisting of seven or eight rows, extending at least a hundred yards, with suggestive traces of what may have formed portions of a circle at the eastern extremity. A huge cairn, with a portion of a kist, are also mentioned near the same locality (see p. cxix). It would be interesting to compare the seven or eight rows of stones at Corydon Ball with those described in this paper as to their parallelism or convergence, etc.

There are systems of avenues of stones with circles in various other parts of the world,—in Lombardy, Africa, India, etc. We may quote the elaborately ornamented megalithic avenues leading to the tombs of the Emperors of China as modern developments of the primæval structures. Thus, we read that the great tomb (the Ling or resting-place of Yung-Lo, of the Ming dynasty,) thirty miles from Pekin, consists of an enormous mound or earth-barrow, covered with trees. Its height is not mentioned, but it is evidently considerable, from the fact that the circular wall which surrounds it is a mile in circumference. In the centre of the mound is a stone chamber containing the sarcophagus in which is the corpse. This chamber or vault is approached by an arched tunnel, the entrance to which is bricked up. This entrance is approached by a paved causeway, passing through numerous arches, gateways, courts, and halls of sacrifice, and through a long *avenue* of colossal marble figures, sixteen pairs of wolves, kelins, horses, camels, elephants, and twelve pairs of warriors, priests, and civil officers. Whether this avenue is orientated or not is not noticed, but an idea of the size of these colossal marble figures may be formed from the following:—"During the building of the late Emperor Heen-fung's tomb, a road one hundred miles long was made from the quarries of Fangshan to the Tung-ling, and a block of marble fifteen feet long, twelve feet high, and twelve feet broad, weighing sixty tons, was seen by several of us then resident in Pekin, being dragged along this road on a strong truck or car drawn by six hundred mules and horses." . . . "This block was to be cut into the figure of an elephant to be placed as one of the guardians of the tomb." (W. Lockhart, Proc. R.G.S. 1866.)

Similarly, near Nankin, there exist avenues of colossal stone figures, attributed to the same Ming dynasty, in connection with the tombs, but what these tombs consist of is not mentioned. More south, in Fokhien, and doubtless throughout southern China, are found the

horse-shoe or omega-shaped tombs which in some cases are associated with analogous approaches. Although not covered by artificial tumuli, the sepulchral chambers are excavated in the side of the natural hills, whilst those belonging to high officials are approached through avenues of stone pillars and carved figures, animal and human, although on a much smaller scale than those of Pekin and Nankin. A sketch of a group of these tombs, said to be those of former governors of Canton, at the foot of the White Cloud mountains, is exhibited.

Now we may venture to assume that all cromlechs, dolmens, kists, and other sepulchral stone chambers of every description, were originally covered with tumuli. Some of the tumuli appear to have had their bases strengthened by revetments or boundary walls of large upright stones. In Great Britain and the Channel Islands we frequently find that the tumuli have disappeared, leaving the structures thoroughly denuded of the smaller stones, earth, or sand which originally covered them, whilst the large blocks forming the revetment remain, and have been generally termed "*peristaliths*." These features certainly are unusual in Brittany, where, however, there are some examples, at Kerlescant, Plouneour, and elsewhere. Now we venture to suggest that the circles of stone in Brittany and elsewhere may be looked upon as the possible remains of colossal "*peristaliths*," the sole indications of gigantic tumuli which may formerly have filled their interior space, and which have now disappeared by atmospheric, aqueous, and human agencies during the lapse of centuries. Nor need we much wonder if no trace of the actual sepulchral chambers within be left, when we consider that the largest tumuli have generally been found to contain the most insignificant kists; besides, it is far from improbable that the builders of the huge mounds, such as those at Mont St. Michel, etc., in the immediate neighbourhood of the lines and circles, constructed their barrows from the material afforded by the débris of the more ancient tumuli within the circles.

Anyhow, whether there were actually tumuli or not within these circular enclosures, the sepulchral theory seems the most fitting conclusion to arrive at; and if this be so, then the avenues may be looked upon as approaches of a ceremonial character connected with funeral rites, not necessarily only those which *preceded* interment, but for *subsequent* visitations, as shewn by the permanent construction of these monuments, which were evidently intended to last through future ages.

As to this day in China the clans and families annually revisit the tombs of their ancestors for the purpose of worship and sacrifice, repairing and cleaning the graves, and placing food for the dead, etc., so through the alignments of Brittany may have passed at stated periods of time to do honour to the resting-place of their forefathers, the descendants of those whose bones rested within the sepulchral circles.

The various theories which have been advanced from time to time as to the destiny of these alignments are so numerous that it would be almost impossible to notice more than a few of them.

Dr. Thurnam has given up the *ophite* or *dracontium* theory as untenable, but considers that some of these circles, Stonehenge, for

instance, may have been covered in with a roof, as the Scandinavian temples are represented as covered and enclosed structures. A similar idea occurred to a gentleman who, on looking at Mr. Lukis' plans of the circles and lines, suggested that the avenues might have been covered in with timber and earth, and formed long chambers for the tribe to live in, the chieftains occupying the western circular chamber.

Mr. Yates has lately written to argue that these lines of stones are mere casual assemblages of stones which have been moved in the course of agricultural operations. It, however, seems strange that any agriculturalists should have taken the trouble of arranging the huge stones in the elaborate designs shewn by the accompanying plans.

Somewhat similar stone enclosures in Denmark have been looked upon as open courts of judicature, cirques, or places of duel, for deciding questions by public combat, or places for the public election of a sovereign or chief, to which latter class Dr. Charleton (*Chorea Gigantum*, 1663,) considered Stonehenge to belong.

§ III. *Alignments of Crozon near Brest.*—The alignments on the promontory of Crozon near Brest are altogether on a smaller scale than those at Carnac, and have accordingly attracted much less attention than the latter gigantic remains; but the whole locality is extremely interesting, and literally teems with menhirs, alignments, etc. De Fréminville mentions them, and gives accurate illustrations of the most important lines at *Landaoudec* and *Toulinguet* in his volume on the Antiquities of Finistère.

We visited the three most extensive of these alignments, viz. *Landaoudec*, *Leuré*, and *Logatjar*.

The most important of these is on the Lande by the mill of *Landaoudec*, about half way between *Lanvéoc* and *Crozon* villages. The stones are in rather an unintelligible position, and most of them are now prostrate, whilst many of them have evidently been removed into the banks on either side of the road; but still there is the trace of an enclosure associated with orientated lines, which also seem to have converged. Near the eastern extremity of the longest line, which extends some three hundred and fifty yards, are the remains of a kist, and near the mill are some isolated menhirs. The largest stones measure eleven feet three inches by six feet six inches, and nine feet nine inches by four feet six inches. The largest stone standing is six feet nine inches high by five feet six broad. According to De Fréminville there exist some scattered stones to the north of the mill, but we did not examine them.

The lines of *Leuré* are about two miles to the westward of the last-mentioned group, and are not far from the little port of Fret, where the steamer from Brest touches. These lines exhibit the features usually distinctive of the Crozon alignments, viz. lines at right angles to one another. The longest line consists of eleven stones, arranged east and west, and extending over one hundred and seventy yards, and a shorter alignment (thirty-three yards in length) at right angles, composed of four upright and three prostrate blocks. In this last line are the largest stones. The upright ones measure seven feet six inches high by four feet thick, and four feet broad; and six feet high by six feet six inches broad, and five feet six inches thick.

The menhirs of *Gatjar* or *Logatjar* are situated on the down above the village and port of *Camaret*.

They are by far the most conspicuous and clearly defined of all the alignments on the promontory, as they are not overgrown with furze bushes like the two last-mentioned lines. Here, again, we find the characteristic features of two short lines about fifty yards long at right angles to a longer line two hundred and sixty yards long, lying north-east and south-west. The short lines, one of fourteen, the other of twelve stones, are on the north-west side of the longer line. The conspicuous erect stone is eleven feet four inches high; the largest prostrate stone is thirteen feet long by four broad.

Near all these alignments are outlying menhirs, which M. de Fréminville terms "*les menhirs d'avertissement*," which, according to him, announced to the approaching visitor the vicinity of a sacred enclosure.*

An outlying menhir at *Gatjar*, close by some stones which may have formed a dolmen, probably stood at the foot of the tumulus which formerly covered the sepulchral chamber. One suggestion made as to the disposition of these alignments at *Logatjar* is that they commemorate a naval victory, and that the arrangement of the stones indicates the position of the fleets engaged. Admiral *Thévenard*, true to his profession, is the originator of this idea, in his "*Recueil de Mémoires relatifs à la marine*," and supposes from the position of these lines, erected on a lofty promontory overlooking the sea, that they represent the order of battle of the Armorican fleets.

There are several other assemblages of stones in this neighbourhood. Amongst others, there are some, probably portions of alignments, near the village of *Goulieu* in the bay of *Dinan*, and a *Carneillou*, perhaps a circle, with two parallel alignments stretching eastwards from it, near the cliffs overlooking the *anse de la Pallue*, north of the *Vec de la Chèvre*.

Between the *Pte. de St. Hernot* and *Pte. de Morgatte* are also two enclosures, one with an avenue, the other with double lines of stones bearing the local name of "*Maison du Curé*." On the banks of the River *Laber* also, close to the farm *Raguénez*, is an alignment, and there is a *Carneillou* at the Manor of *Trébéron*, some distance inland from the coast. This last is curious, from the fact that the tumulus which appears to be associated with these lines is named *Le Tombeau d'Artus*.† These last we did not examine, and they are therefore merely mentioned as a record of their existence for the benefit of those who may intend to visit these localities.

§ IV. Connection between the Alignments and other Megalithic remains

* *Antiquités de Finistère*, (2nde partie, p. 20, et seq.), par M. le Chev. de Fréminville. Brest. 1835.

† *Artus* or *Artur*. "Le roi *Artus* fut enterré dans l'île d'*Aval* ou d'*Avalon*, sur les côtes qui avoisinent *Lannion*, et à peu de distance de son séjour favori, ce château de *Carduel* or *Kerduel*, si célébré par les chroniques de la table ronde, et appartenant aux enfants de M. de la *Fruglaye*. Les Anglais ont voulu, mais à tort, s'approprier ces localités." (De Fréminville.) From this it would appear that the Arthurian legends are as much Armorican as British. Vide "Traces of Affinity between the Bretons and the Cornish," *British Quarterly Review*, No. civ, October 1, 1870.

in their neighbourhood.—An important question may now be raised as to whether these lines and circles are in any way associated or not with the numerous menhirs, dolmens, and other allied megalithic structures found not only in their immediate neighbourhood but throughout the province: which question naturally includes the following: Was their erection coeval? Were they built by the same or by a different race of men? We assume for the present that they were both constructed for similar, i.e., sepulchral, purposes.

Now as to their contemporaneity, the Rev. E. L. Barnwell states* that “of all the monuments usually called Celtic, whether of pillar-stones, chambers, circles, avenues, etc., the simple chamber cromlech or dolmen, with or without its covered gallery, is now generally acknowledged to be the earliest.” To us there seems every reason to suppose that the stone avenues belong to a period anterior to that when the menhirs and dolmens were set up, when we compare their shape and position. These assemblages of stones are remarkable for their want of uniformity, absence of elegance, in fact, general shapelessness; some globular, others rhomboidal, etc.—all sorts of irregular, fantastic, rough, and bizarre forms. The hugest appear to have been chosen for their bulk and weight alone, without any consideration of their shape, and but little heed taken as to how or in what position they should stand, as long as they were in their proper alignment. They are erected any side uppermost, as often as not with their heavier portion in the air, being well high balanced on their smaller end, so much so as would lead us to suppose sometimes that they were originally thus placed in equilibrium; still, it is more probable that they were left in the readiest position which came to hand. There is no trace of their having been fashioned artificially. At all events, they present a striking contrast to the isolated pillar-like menhirs of smooth elegant exterior, placed generally with an especial view to their stability, and exhibiting a practical knowledge of the position of the centre of gravity on the part of those who erected them. Many of the menhirs present the appearance of having been fashioned artificially; for instance, at Locmariaker, that magnificent specimen “*Le Grand Menhir*,” now lying in four pieces, exhibits the artificial handiwork of man; whilst on the south side of the “*Menhir de la Bourlaie*” (*Moustoir ac*) are two sculptured figures in relief, whilst others exhibit fluting, and other signs of ornamentation belonging to an advanced period of art.

Again, we know that the custom of erecting monoliths has descended down to historic times, and we have the records of the erection of memorial stones, as the *Bauta-stones* and *Minne-stones* of Scandinavia and the *Gullaunes* of Ireland; whereas there are no historical accounts of the circles and avenues of stones being formed.

In like manner the dolmens are still more remarkable for the admirable smoothness, flatness, and clever adaptation of the huge slabs composing them, whilst in many instances they are found elaborately ornamented.

The inclusive term “*Megalithic*” has been generally applied to all

* Barnwell, Rev. E. L., *Archæologia Cambrensis*, 3rd ser., vol. x, p. 57.

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Tumuli of Brittany and their Interior Structures.

[To face p. clxi.]

UNSCULPTURED.					
No.	DESCRIPTION OF TUMULUS.	INTERIOR STRUCTURE.	EXAMPLES.	REMARKS.	
1	Long barrow.	Nil.	Kerlescant (?).	Comparatively rare; there is an erect menhir at west extremity of the examples at Kerlescant, and also a few traces of a revetment.	
2	Round ditto.	Simple kist. C.*	Carnoët Finistère. Kerlevit, near Douarnenez. <i>Passim.</i>	Frequent. In the two examples given, bronze implements were found.	
3	Ditto ditto.	Ordinary megalithic dolmen, consisting of single chamber, with narrow entrance covered way at passage. C.		This is the commonest type of tumulus, and forms the basis of which the following are variations.	
4	Ditto ditto.	Many-chambered megalithic dolmen, consisting of several chambers with a single narrow entrance. C.	Keriaval. Klud-ar-yeur.	Most frequent variation of above.	
5	Ditto ditto.	Many-chambered dolmen. Chambers of dry walling, and vaulted narrow entrance, megalithic and ceiled.	Rosmeur.	Not frequent.	
6	Long ditto.	Long narrow megalithic chamber, sometimes divided, sometimes with dolmen entrance. C.	Garren-dol. Parc ar Dolmen. Kerlescant. Kerlérec. Kergonials.	There is a peristalith at Kerlescant. The two latter examples have tolmen entrances.	
7	Round ditto.	Megalithic dolmen, with		A rare example; the entrance	

UNCHAMBERED.

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7	Round ditto.	chamber, sometimes divided entrance. C. Megalithic dolmen, with passage at a sharp angle with chamber. C.	Paro ar Dolmen. Kerlesant. Kerléarec. Kergonfals.	cant. The two latter examples have dolmen entrances. A rare example; the entrance passage descends into the chamber, and was found divided by walls of loose masonry. Le Rocher is yet covered with its tumulus, and is a most unique and perfect specimen. The type of ornamentation (Pierres Plates is denuded) in both is similar. At Kerozille, the centre dolmens at right angles to the others; in the other instances, the dolmens are parallel to each other. The most elaborately decorated dolmen known.
8	Ditto ditto.	Megalithic dolmen, with curved gallery or passage. C.	Le Rocher. Pierres Plates.	
9	Ditto ditto.	Two or more megalithic dolmens, either parallel, or at right angles to one another. C.	Grottes de Kerozille. Do. Plonharnel. Kerlan.	
10	Ditto ditto.	Square megalithic chamber, and long straight avenue, with elaborate ornamentation. C.	Gavr' Inia.	
11	Long ditto.	Megalithic dolmen at one extremity, and also other smaller kists, ceiled and vaulted.	Manné-Lud. Le Moustoir.	In the first, besides the large dolmen, is a vaulted kist and curious arrangement of stones. In the latter is one dolmen, and three other structures, partially megalithic and partially vaulted. Tumiac is conical. Inhumation relics. Manné-er-H'Roek longer and more truncated, contained no human relics. M. St. Michel long and narrow mound, showed signs of incineration of human remains.
12	Immense tumuli, more or less elliptical.	Comparatively insignificant. Kists partly megalithic, partly ceiled, and partly vaulted. * C = Ceiled.	Tumiac. Manné-er-H'Roek. Mont S. Michel.	

SCULPTURED.

Celts from Tumuli in Brittany.

MATERIAL.

NAME OF TUMULUS.	MATERIAL.																									
	FIBROLITE.					JADEITE.					CHLOROMELANITE.					DIORITE.					APHANITE.			Total.		
	Type.*					Type.					Type.					Type.					Type.					
	A	K	L	Total	Irreg.	A	B	C	E	F	Total	A	B	C	E	F	Total	A	B	D	Total	B	L		Total	
	1	58	31	1	91	4	2	2	8	1	2	...	2	1	104
Manné-er-H'roëk (Locmariaaker).	...	...	...	...	...	10	...	1	...	...	11	...	...	...	1	...	...	1	...	...	2	...	...	...	1	38
Mt. St. Michel (Carnac).	...	...	...	...	...	5	2	...	1	1	9	...	...	...	...	...	6	...	...	...	...	1	1	...	...	32
Tumiac (Arzon)	...	...	...	...	...	180	49	1	...	...	...	19	2	1	3	3	...	3	4	1	1	1	1	...	...	174
Total	Total 131					28					9					3					2			1		

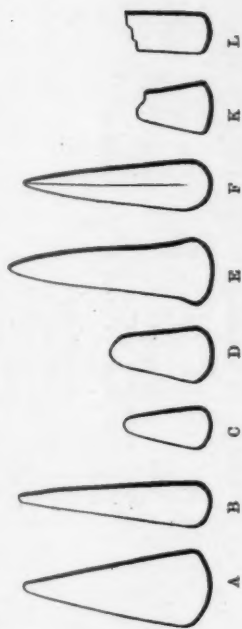


Fig 5. * Types of celts adopted by the Société Polymathique du Morbihan, and alluded to in the above table.

dolmens, menhirs, circles and alignments of stones. We may not be wrong in applying the distinctive term "*Amorpholithic*" to lines and circles of rough stones, or to any other assemblages of stones of a like shapeless character.

From these distinctive features we venture to suppose that there exist two classes of megalithic remains, and that the stone alignments and circles are attributable to an age considerably anterior to that of the dolmen builders.

If the isolated menhirs were erected by the same people, or their ancestors, is it likely that they would be placed so as to interfere with the design of the alignments, as at Kermario, where a single menhir rises abruptly amidst the smaller stones of the avenue, of which it is wholly independent, and therefore probably a subsequent erection?

In spite of their propinquity (for we have many instances of menhirs and dolmens on either side of the lines, likened by some French writers to the outposts of the main army, and called by De Fréminville "*les pierres d'avertissement*,") it seems likely that there was no connection between the lines of amorpholiths and the other megalithic structures, or between the races who constructed them. On the other hand, it is not improbable that the most suitable stones of the more ancient lines were often taken to form the neighbouring *cromlechs* and *peulvans*. It must be admitted that there is some slight analogy perceptible between the narrow passage leading to the sepulchral chamber of the dolmen and the narrow avenue which widens as the circle is approached.

Now if the Veneti or their progenitors erected the menhirs and dolmens, it is naturally to be supposed that their descendants, the modern *Morbikannais*, would have handed down by tradition the true sepulchral character of these remains; instead of which we find that the construction of their chambered barrows is universally attributed by their folk-lore to the *Korils* and *Teuz*, the mischievous elves and benevolent fairies; therefore these dolmen mounds would appear to have been constructed by a race who inhabited a large portion of Armorica west of Vannes,* previous to the Veneti; so we must now assign the avenues and circles of amorpholiths to a yet more ancient pre-Celtic race, not aboriginal, but probably intruders from the north and Scandinavia, of whom these long-lasting rough stone masses alone remain as memorials of their existence.

§ V. *Characteristic Features of Tumuli*.—The tumuli of Brittany have been so accurately described by Messrs. Lukis, Barnwell, and others, and their exploration by Messrs. De Cussé, Gallez, Closmadeuc, etc., that it would be superfluous to describe in detail the principal types of these structures or their contents. By the accompanying table, however, it will be seen that an attempt has been made to classify them according to their internal structure.

Mr. Lukis† has divided the dolmens into two groups, which he

* The prevalence of these monuments to the west and their comparative rarity towards the east has been before alluded to.

† "On the various forms of monuments, commonly called dolmens, in Brittany, pointing out a progress in their architectural construction, with

terms vaulted and ceiled sepulchres. The first group contains those monuments which are covered with huge flat slabs more or less massive; and the second those which are roofed with overlapping* slabs of moderate and small dimensions, forming a rude kind of vault of the beehive form.

Mr. Lukis has good reason to suppose that the ceiled structures are chronologically anterior to the vaulted; but as the same tumulus not rarely contains structures of both descriptions, for instance, *Manné-Lud* and *Le Moustoir* tumuli, whilst other structures within the tumuli are composite, part vaulted and part ceiled, as at *Mt. St. Michel* and *Manné-er-H'roëk*, Mr. Lukis' classification has not been followed in the accompanying table.

One characteristic feature which may also help us in determining the relative antiquity, is in the position of the memorial stone, which is often found to accompany the dolmen mound. In some tumuli this is found on the summit, in others at one extremity (often the west), whilst elsewhere we find an inscribed tablet within the tumulus, close to the sepulchral chamber. Thus the unchambered long barrow north of the circle at Kerlescant (and already mentioned as perhaps connected with the alignments) has its menhir at the western extremity; the Moustoir and other tumuli have menhirs, one or more, on their summits, whilst at Manné-er-H'roëk we find an incised tablet, within the *galgal*, close to the entrance of the sepulchral chamber, on which are some hitherto undeciphered figures.

This last inscribed stone has some rude figures, supposed to be hafted celts, enclosed within a species of label or *cartouche*, which reminds us of the cartouch found so often on Egyptian and Phœnician monuments. So also runes are found (though rarely) inscribed within similar labels, attributed by Professor Stephens of Copenhagen to the early part of the iron period in Scandinavia. It is curious also to remark that these *rune-stones* are also found almost always inside the cairn or grave-mound near the skeleton. We may therefore suppose that the tumuli containing these sculptured memorial stones inside them are of less antiquity than those whose memorial stone as a menhir stands without.

It will be seen in the table that a distinction has been made between the sculptured and unsculptured monuments. As regards these archaic sculpturings, the most simple and probably oldest are the well-known cup-markings. Where found merely in rows they perhaps served as records of times and seasons, where in groups they may have represented constellations of the stars. On the upper surface of the cap-stone of the dolmen *Runusto*, near Plouharnel, are some of these markings, which can with a slight latitude be found to rudely represent the constellation of Ursa Major.

an attempt to reduce them to Chronological order," by the Rev. W. C. Lukis, M.A., F.S.A. See *Transactions of the International Congress of Pre-historic Archaeology*. Third Session.

* Compare with arches and vaults found in the ruined cities of Yucatan, described by Stephens and Catherwood; also with circular chambers made by logs and overlapping stones in mounds of Ohio; Cyclopean arches at Arpino in Italy, etc.

As, however, there is some doubt of these marks being coeval with the erection of the monuments on which they are found, and from their extreme simplicity and rudeness, the monuments on which only these have been found are not included in the sculptured division of the tumuli.

Next in order we find irregular lines and network, as at *Kerozille* and *Kercado*; then regular patterns, as pot-hooks, at the *Dol au Marchand*; later, a better development and some idea of elegance in the sculpture of *Pierres Plates* and *Le Rocher*, and the most elaborate style of ornamentation, with representations of celts, and the mysterious holes and handles at Gavr' Inis. The incised trace of feet at *Petit Mont* probably belongs to the same period as the tablet of *Manné-er-H'roëk* mentioned above.

The elaborate ornamentation of the interior of some dolmens, as at *Gavr' Inis*, *Pierres Plates*, etc., would lead us to suppose that these sculptured galleries were entered by visitors subsequent to the interment. It is noteworthy to remark that the majority of these dolmens are so placed that at one period of the year or another the sun on rising would illuminate with its rays the gallery and chamber, reminding us of the chieftain in Madagascar who on his death-bed requested his son to occasionally open the entrance to his stone tomb, and let the sunlight shine in upon his body. It appears from Mr. Lukis' observations that sixty-six per cent. of the dolmens have their entrance between the south-east by east and south points of the compass (magnetic).

The gallery of approach, always narrowed at the entrance, is occasionally found curved, as at *Le Rocher*, near *Auray*, or at a sharp angle to the chamber, as at *Kergonfals*, near *Locminé*.

The chamber is generally on a level with, and in some instances, (especially when paved with a large base-stone corresponding with the capstone above), is higher than the entrance. In one instance alone, at *Kergonfals*, is the chamber found at a lower level.

Peristaliths are rare in Brittany. The fallen menhirs of some size and other smaller stones at the base of the tumulus of *Manné-er-H'roëk* may indicate the remains of one on a large scale. At *Kerlescant* there is a good example, as also at *Plounéour* and *Goulven* in *Finistère*, and two others on *la Grée de Cojou*, near *St. Just*, in *Ile et Vilaine*.

It will be noticed that class 9 in the adjoining table includes those barrows which contain two or more dolmens. In some instances, where denuded dolmens are found in groups even of four together, as at *Erdeven*, on an eminence about the centre of the lines, it is difficult to decide whether they were in separate tumuli, which must have touched one another, or have been enveloped in a common mound.

§ VI. *Predominance of Fibrolite Celts in Interior Finds.*—By inspection of the catalogue of *Les objets de l'âge de la pierre polie*, preserved in the archaeological museum at Vannes, it appears that there is a collection of one hundred and ninety-eight stone celts of the neolithic period, besides numerous fragments, etc. The collection of flint knives, scrapers, flakes, arrowheads, and cases of flints is extremely

scanty. Mr. Lukis writes with reference to the flint arrow-points, that "the members of the Polymathique Society of the Morbihan, after fifteen years labours, have succeeded in finding two only, and this circumstance has led them to remark that these objects are very rare in the department; but I entertain a different opinion, and conclude that they have not searched carefully, for in one chambered barrow I have found *nine*, in another *three*, and in a third *one*, and in each case after a previous disturbance of their contents. They are small objects, and easily escape detection, more particularly when explorers neglect to use the sieve. The truth is, explorations of these barrows are generally carried on too rapidly, especially by those whose place of residence is at a distance, as well as by those who employ paid labourers, to whom, therefore, time is of great consequence."—"On a remarkable chambered long Barrow, at Kerlescant, Brittany," by the Rev. W. C. Lukis, p. 6.) It may be added that it was not until the Rev. W. Lukis showed the members of the Society that the soil removed in the course of excavation should be sifted, that they found any of these small flint implements. The number of flint knives now in their collection is under twenty, and a third part of this number was found in the Moustoir tumulus.

The exhibition of pottery is also insignificant, as the ignorant work-people employed (generally soldiers) looked upon the urns and jars when found only as the probable receptacles of treasure, and nearly always destroyed them. This is testified by the innumerable fragments which are scattered about the débris of the tumuli explored under the auspices of the Society.

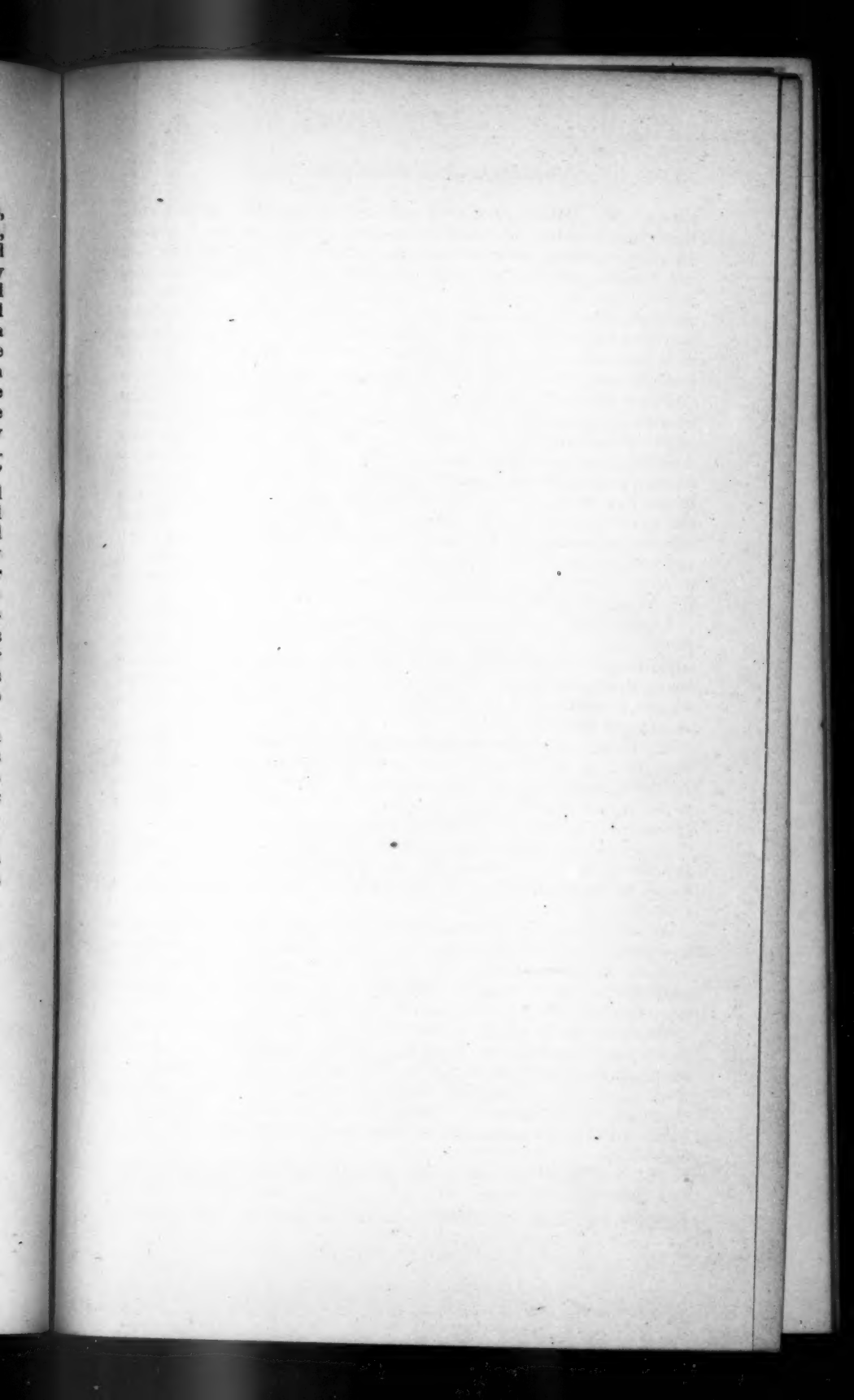
Of the one hundred and ninety-eight perfect celts in the collection (besides those miscellaneous small and disconnected finds from various and unknown localities) one hundred and seventy-four are the results of three great finds from the interiors of the tumuli *Manné-er-H'roëk* (*Locmariaker*), *Mont St. Michel* (*Carnac*), and *Tumiac* (*Arzon*).

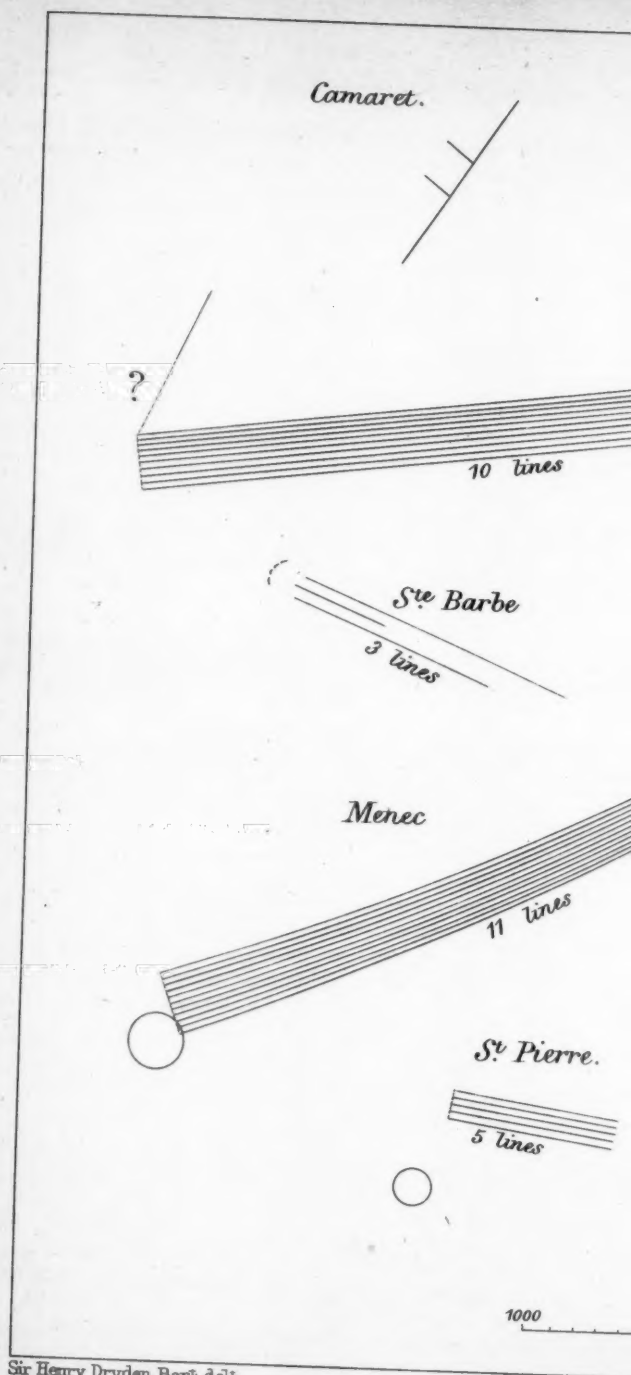
Appended is a table in which these celts are classified, from which appears that, taken collectively, seventy-five per cent. of the celts found in these mounds were composed of the material known as *Fibrolite*.

Fibrolite is a rare substance, and its presence in these sepulchres has given rise to much inquiry as to the source whence it could be obtained in Europe, as the only locality where it occurs native is not nearer than the Carnatic. Recently it is reported to have been discovered in Brittany, but without much foundation.

Of these fibrolite celts nearly seventy per cent. are of the shape conforming generally to type K, and the remainder to type L, adopting the classification of the Polymathique Society (see fig. 5). Both types are of irregular thickness, occasioned by the lamellar structure of the material. These fibrolite celts were exhibited at Paris in 1867, and some casts of them are in the Blackmore Museum, Salisbury.

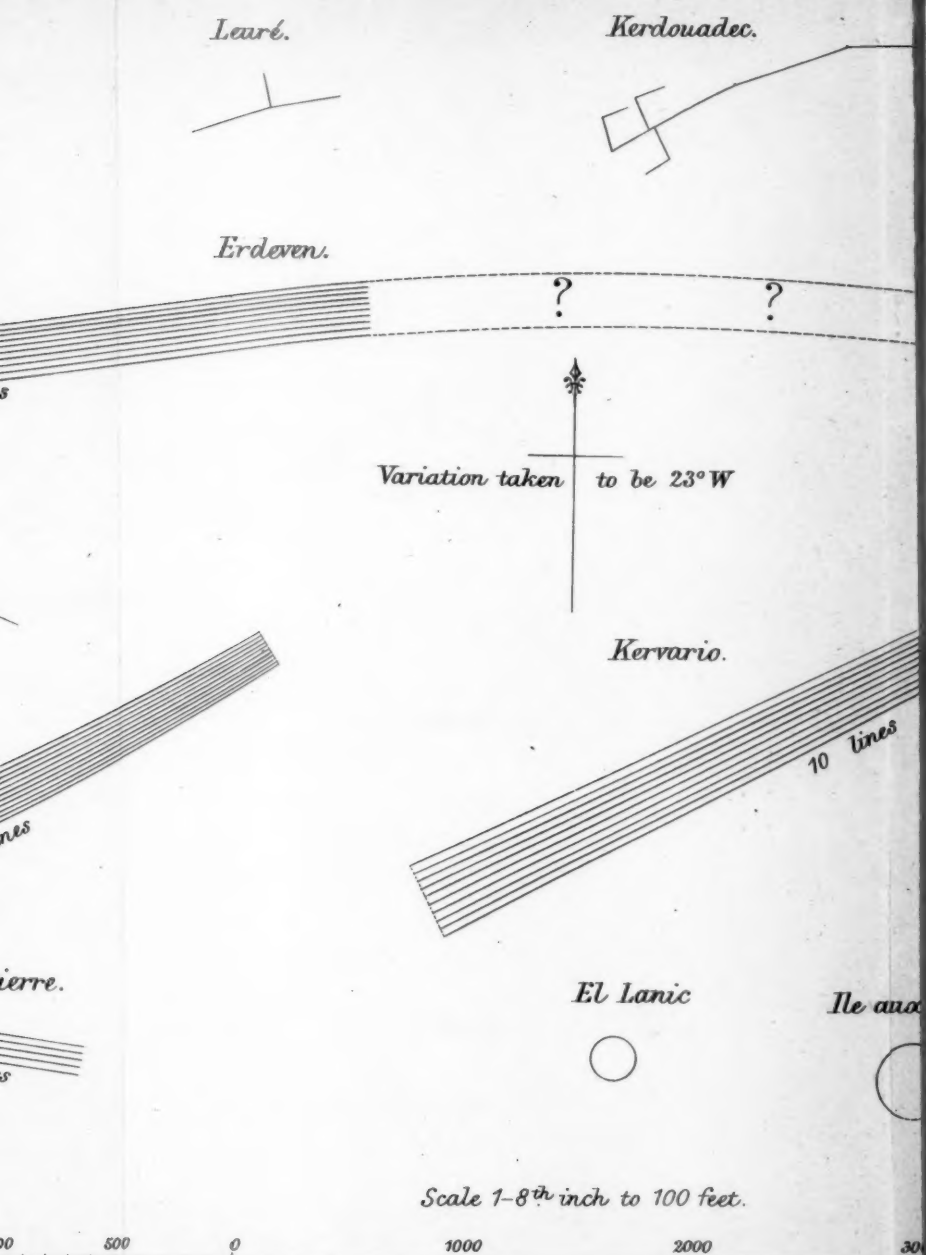
The Rev. W. Lukis has in his collection one hundred and eighty-four celts from Brittany. Of these only a tithe are fibrolite, viz. eighteen, whilst six are of jade; but this collection is the result of



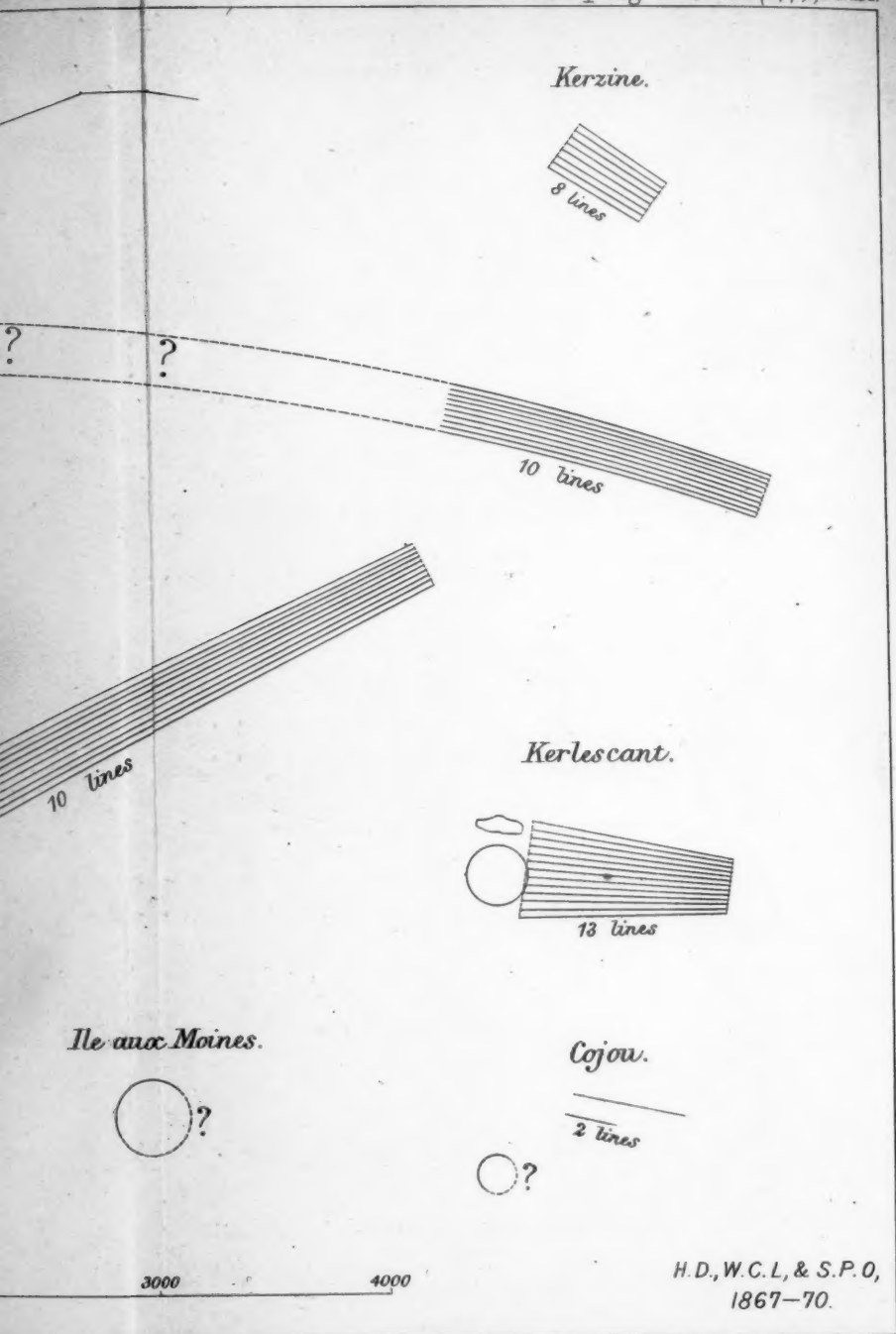


Sir Henry Dryden, Bart., del.

LIN



· LINES & CIRCLES IN BRITTANY, SHOWING THEIR ORIE



E. Waller, lith.

THEIR ORIENTATION.

miscellaneous and surface finds. When we come to examine those he exhumed himself from dolmens, it appears that out of the eight celts obtained by him from interior finds *six* are of fibrolite, one of quartzite, one of diorite, which agrees with the proportion before stated.

So also in Mdme. le Bail's collection, the results of interior finds as well as of surface, a large number of them are fibrolite. In the Christy collection are some fibrolite celts from the Auvergne, but none from Brittany. In the British Museum there is only one celt of quartzite from Brittany.

Besides the predominance of these fibrolite celts there are some other significant facts which, taken in connection with it, may help to throw some light on the subject. All the fibrolite celts are small, and nearly perfect, not showing signs of constant use, but sharp edges.

The diorite and other celts of a larger type found with them show signs of use, and appear to have been purposely broken before being deposited in the grave.

From this it appears that the fibrolite celts may have been votive, this rare material being probably used only in connection with funeral rites and ceremonies.

EXPLANATION OF PLATE IX.

Plans showing the orientation of the following lines of stones and circles in Brittany, viz: Camaret, Leuré, Kerdouadec, Kerzine, Erdeven, St. Barbe, Menec, St. Pierre, El Lanic, Ile aux Moines, Kerlescant, Cojou, and Kervario.

The following list shows the angles of orientation, or bearings, of the principal lines of stones; the variation being taken to be 23 deg. W.

E. of mag. N.		
57 deg. 0 min.		Camaret.
83 " 45 "		Menec tail.
86 " 30 "		Kervario.
87 " 30 "		Kerdouadec.*
91 " 15 "		Menec head.
93 " 15 "		Kerdouadec.
93 " 30 "		Leuré, W. part.
99 " 0 "		Leuré, E. part.
106 " 0 "		Erdeven head.
113 " 0 "		True east.
117 " 0 "		Kerlescant.
118 " 0 "		Cojou.
122 " 0 "		St. Pierre.
135 " 0 "		Erdeven tail.
136 " 0 "		St. Barbe.
145 " 0 "		Kerzine.

DISCUSSION.

SIR HENRY DRYDEN stated that he had visited these remains in order to assist the Rev. W. Lukis in making plans, etc. of them, and not in order to come to any conclusion of his own on them. He presumed most people would agree that the lines had some connection with the religion of the constructors. The dolmens and lines of the Carnac district had their chief ends to the west, and this in some measure tended to show similarity of origin. Lieut. Oliver's theory that the lines were avenues to tombs could not be disproved, but it

* Kerdouadec is synonymous with Landouadec.

was not supported by the existence of any tomb or trace of one in the required position, nor was there any specially wide avenue near the middle of any group, such as one would imagine would have existed if they had been avenues to tombs.

The following paper was then read :

XIV.—*On a CAIRN near CEFN, ST. ASAPH, NORTH WALES.* By the
REV. D. R. THOMAS, M.A., and T. MCK. HUGHES, Esq.,
M.A., F.G.S., F.S.A.

[*Abstract.*]

The authors described the opening of a second chambered tomb in the cairn at Tyddyn Bleiddyn, near Cefn, St. Asaph. In it they observed the same crowding of human remains into a very small space as had been noticed in the previously-opened tomb in the same cairn.* The bones of fifteen individuals were found in the two chambers of this second tomb. From the manner of occurrence of the skeletons it was evident that the bodies were interred in a sitting posture at different periods. The bones of a small ruminant and also of a small carnivore were found among the human remains, and in much the same condition. There were no traces of metal or of dressed stone.

JANUARY 24TH, 1871.

PROFESSOR T. H. HUXLEY, LL.D., F.R.S., PRESIDENT, IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

The following donations to the Society's Library were announced, and the thanks of the meeting voted to the respective donors :

- From the AUTHOR—A Handbook of the Swahili Language, as spoken at Zanzibar. Edited for the Central African Mission, by Edward Steere, LL.D.
- From the AUTHOR—Swahili Tales, as told by the Natives of Zanzibar, with an English Translation. By Edward Steere, LL.D.
- From the INSTITUTE—Proceedings of the Royal Colonial Institute, vol. i.
- From the ASSOCIATION—Report and Transactions of the Devonshire Association for the Advancement of Science, Literature, and Art, vol. iv, part 1.
- From the SOCIETY—Transactions of the Historic Society of Lancashire and Cheshire, new series, vol. x.
- From the SOCIETY—Proceedings of the Royal Geographical Society, vol. xiv, No. v.
- From the SOCIETY—Journal of the Royal Asiatic Society of Bengal, part ii, No. iii; and Proceedings, No. ix, 1870.
- From the ANTHROPOLOGICAL SOCIETY OF LONDON—The Journal of Anthropology, No. iii.
- From DR. HARTMANN—Zeitschrift für Ethnologie. Hefte, i, ii, iii, iv, 1870.

* Dawkins, *Jour. Ethnol. Soc.*, vol. ii, Jan. 1871, p. 446.

From the EDITOR.—Sulle Terremare Modenesi: pubblicazione fatta a cura del Consiglio provinciale di Modena.

From the EDITOR.—The Phoenix, December, 1870.

From the EDITOR.—The Flying Dragon Reporter, December, 1870.

From the EDITOR.—The Athenæum; to date.

From the EDITOR.—Nature; to date.

From the SOCIETY.—Journal of the Society of Arts; to date.

The following paper was read :

XV.—ON EAST AFRICAN TRIBES and LANGUAGES. By the
REV. EDWARD STEERE, LL.D.

My acquaintance with Eastern Africa is only due to my having joined Bishop Tozer when he left England to take the place vacated by the untimely death of Bishop Mackenzie. We went first of all up the river Zambesi, entering by the Kongone, which is its most southerly mouth. We stayed for about nine months on the Morumbala mountain, after which I visited Senna and Kilimane. After a few months of wandering, including a flying visit to Moçambique, we settled in the town of Zanzibar, where I stayed for four years. The share of work which fell to me was chiefly that connected with the languages. I used while at Zanzibar to receive all our native visitors, and was busily engaged in mastering, first the language of the place, that is, the Swahili, and then in making translations into it, and in gathering by its aid some notion of the languages of the interior. I printed in Zanzibar a vocabulary and sketch-grammar of the Shambala language, and I have brought home similar collections in the Nyamwezi, and a rather fuller work on the Yao language. Of course I do not pretend to have thoroughly mastered any but the Swahili.

While on the Morumbala we were among a tribe which called themselves *Aroro*. Their country is commonly marked in the maps with the name *Bororo*, but of their language or habits I had no time to learn anything material. Their language was said to be very similar to that of the Nyassa or Mang'anja tribe, but their women did not wear the strange ring in the upper lip which is characteristic of the Nyassa, though they generally pierce a small hole in that lip, through which the girls wear a little ring of beads, and women in full dress a long pin with an ornamented head, the point of the pin reaching to below the chin. The people near the Morumbala were, when we saw them, in various stages of starvation, owing to droughts, and to the ravages of the Portuguese outlaw Mariano, or, as the natives called him, Matikenya.

Let me say here, once for all, that in writing all the languages I have met with, I have used the consonants with the force they have in English, and the vowels with the sound they have in Italian. In mentioning the tribes and their countries I use the unvarying part of the word only, as is now commonly done in speaking of the Zulus. As a rule the people of any tribe are denoted by prefixing *wa-*; a single person by prefixing *mu-* or *'m-*; the country by prefixing *u-*, and the language by prefixing *ki-*. Thus, *'Myao* is a Yao man; *Wayao*, the Yao people; *Uyao*, the Yao country; and *Kiyao*, or

Chiyao, the Yao language. The prefix *ki* does not, however, mean the language only, but anything of the sort belonging to those people. It answers very nearly to our suffix *-ish* in such words as Swedish and Spanish. And again, the prefix *u-* denotes not only the country but also the being a member of such a tribe. It seems to me a matter of some importance to get rid of all these prefixes, and not to say that the Wanyamwezi speak Kinyamwezi, or the Betchuana speak Setchuana, but to say simply that the Nyamwezi people speak the Nyamwezi language, and the Chuana people talk Chuana.

The Swahilis are remarkable as being a mixed race, half negro and half Arab. Their language and their features exhibit the same mixture. The history of their coast is merely that of a series of Arab conquests, and they are constantly being recruited by Arab settlers on the one hand and by slaves from the interior on the other. They are at least a more permanent race than any that has been formed by the Portuguese settlers, for on the Zambesi there is scarcely a single instance of a family continuing for more than three generations in a direct line, though there are the same extremes of dissipation and disease among both the Arabs and the Portuguese. Certainly it would be a miracle if a healthy or enduring progeny could spring from the Portuguese settlers in Eastern Africa, and it would be very remarkable if it arose from among the Arabs in Zanzibar. As a matter of fact, large families are extremely rare. A neighbour of ours had twelve children, no two, I believe, by the same mother, and he was looked upon as one of the most fortunate of men. Instances do occur like that of the former Sultan Seyed Sa'eed, who is said to have had forty children; but then of four of his sons who were or might have been his successors, one is dead, leaving no children, two are dead, leaving only one daughter each, and the fourth, who is, I suppose, now Sultan, has no issue. It is only among the Khojas and Bohras who come from India to settle in Zanzibar that every family seems to be increasing, and they marry only one wife, and do not seclude their women. There are abundant instances of long pedigrees among the mixed Swahili race. A number of families trace themselves back to a Persian origin, and claim to have arisen before the time of Mohammed. The coast is traditionally said to have been used as a kind of Siberia by the old Persian kings, and there are remains of buildings very superior to any now erected which are said to have been Persian. I do not know of any remains which carry distinct evidence of their age older than some gold coins of the Kalif Haroun-er-Rashid, which have been dug up in the island of Zanzibar. When the Portuguese first visited the coast, Melinda (or rather Malindi) seems to have been the chief place; after that, Lamoo, or some of the towns near it; then Mombas, and now Zanzibar. There is a sort of evidence of this change in the language. That dialect in which the oldest poetry is written, and which is still the only correct one to write verse in, is called *king'osi*, and is said to have been spoken at Malindi. The dialect of Lamoo, which is always called by the natives *Amu* (the *L*-being apparently the Arabic article) is still looked upon as the best, though somewhat too antiquated for ordinary use. The dialect of

Mombas (called by the natives *Mvita*) is that which is now affected by everyone who pretends to speak elegantly; but the rising dialect, is plainly that of Zanzibar (always called in Swahili *Unguja*). All the other towns are now decaying, as the trade of the whole coast, which one may roughly describe as stretching from Lamoo on the north to Kilwa on the south, is centred in the town of Zanzibar alone. That town was computed some years ago to have a permanent population of one hundred thousand, and it is beyond all doubt rapidly increasing. The late Sultan Seyed Majid built a new town on the coast about forty miles south of Zanzibar, which he designed to be the gathering point of all the trade of the continent, and perhaps a rival to his old capital. I believe that its chief recommendation was that, the harbour being entirely landlocked, the town would not be quite so much at the mercy of an enemy coming from the sea, as his brother, the Sultan of Muscat, had more than once threatened that he would, to exact payment of what he claimed as his dues, if not to oust his brother Majid altogether.

The name *Zanzibar* is more properly *Zenjibar*, from *Zenj*, a "negro," and *bar*, a "coast," like our English "negro coast." It is used only by Arabs and other foreigners for the town and island, and is no doubt the same as the Zanguebar of our maps,—a country which exists, so far as I know, in our maps only. According to the traditional history of the island, the Portuguese found Zanzibar a place of small importance, and held it for only a short time. Their presence, however, scared away the original inhabitants of the town, most of whom fled towards the south of the island, and there founded a town called now *Unguja kuku* (Old Zanzibar). The descendants of the old inhabitants live in villages by themselves, and are called *Wahadimu*. The descendant of their Sultan is still recognised as their head by many of the people of the coast, as well as in the island, and is commonly known as the *Munyi Mkuu*, or Great Chief. The present *Munyi Mkuu* is a very young man, and is known as Sultan Ahmed. The *Wahadimu* are very shy and distrustful of strangers. They come sometimes into the town with firewood or vegetables, but I could never get into conversation with any of them. Their language is different from that of the townspeople, and there are said to be two distinct dialects spoken among them. They pay two dollars every year for each household, of which the *Munyi Mkuu* has one and the Arab Sultan the other. They also help their two masters at the time of the clove harvest. It is said that their numbers are diminishing. When they bring firewood they come in their own boats, which are the only vessels called in Swahili *dhows*. These daos are small open boats, pointed at both ends, and propelled by a square mat sail. When there is no wind they generally keep in the shallows, and push the boat on by means of long thin poles.

The peculiar vessel of the Swahili north of Zanzibar is called an *Mtepe*. It is an extremely large open boat, with a sharp stem and rather high rudderhead, and a peculiar prow, long and projecting, shaped roughly like a camel's head, with an eye rudely painted, and tassels hanging from what represents the neck. There are very often

three or four minute little pointed flags stuck as it were in the top of the head. The vessel itself is very broad and shallow, and has a thatched roof over the centre portion. The planks are sewn together, and no iron is used in the construction. The mast is very tall, and bears an enormous square matting sail: above the mast is fixed a long staff with a small white streamer. There are two kinds of canoes used in Zanzibar, both hollowed out from the trunks of trees. The smaller have outriggers to prevent overturning; the larger not. The canoes at Moçambique are made of bark, very light, and rather broad; while those on the Zambesi are made by hollowing out the trunks of a tree having a dark-coloured close-grained wood. Some of these last are very large, and will carry as much as ten tons of goods. The larger have rudders, and are called *coxes* (kosh): the smaller, steered with a paddle, are called *almandias*. Even in this Portuguese district the names of the boatmen are Arabic: the steersman is the *mwelimu*, and the man at the bow the *kadamu*. There is perhaps a trace of Swahili in the name of Kilemane. *Kilimani* is the Swahili for "on the hill," and is in the usual form of names of places.

The extreme mixture of races on the Swahili coast prevents the exclusive prevalence of any one distinct type of form and feature. The better class of Swahili—those who can trace their descent farthest back—have more of the Arab in their appearance than of the negro. Indeed, upon occasion, they aver that they are Arabs, and that their language is only a dialect of Arabic: but then the Comoro people say the same, and they have not only negroish features, but the rank negro smell in great intensity. The purest Swahili are rather small and well-shaped, with clear dark-brown complexions and a small beard. One sees now and then a very peculiar colour, as though the face had been blackened with ink and then washed. There is a curious difference between the Swahili and the unmixed Arabs,—the Arab prefers to sit on the floor, the Swahili prefers to sit on a chair. They say that they derived this custom from the Portuguese; and in their poetry "a European chair" is often mentioned among the articles of luxury.

In religion the Swahili are Mahommedans of the Shafi school; but the Sultan and his immediate followers are of an heterodox sect, which prevails in Oman, called the *Ibathi*. The differences which come into most prominence in Zanzibar are that the Ibathi have no minarets to their mosques, forbid singing at funerals, regard smoking as a great sin, forbid the marriage of an adulterer with the divorced adulteress, deny that the faithful in Paradise see God, and deny that there have been any true Caliphs except Abubekr, Omar, and Othman during half his reign. On all these points the Shafi hold opposite opinions. But all alike have taken up a mass of superstitions more or less purely African.

The most noticeable is one in relation to places called *Mzimu*, which are supposed to be haunted by powerful spirits. There was one under the corner of the house we lived in in Zanzibar. The workpeople engaged about our house used often to burn some incense in a little pot to propitiate the spirit, for it was universally believed that the spirit had been disturbed and offended by the erection of that corner

of the house over his dwelling-place, and that that was the true reason why the man who built it died very soon after its completion, and the next owner also died and the whole family came to ruin. The belief was so strong that the house was practically abandoned, and even workmen hardly dare work in it. I have asked people who wanted to come there to pray and make offerings how they reconciled it with their Mohammedanism, but they merely shrugged their shoulders and said that it was the custom of the country. *Mzimu* are very commonly connected with a baobab, or calabash tree, and many of the natives would think it very unlucky if they passed one without making at least some gesture of respect. Vows are very commonly made at an *Mzimu*. I heard of one which was performed by walking on the knees from the town to an *Mzimu* nearly a mile off. The name itself seems to be connected with an African word (*zinu*) denoting the spirits of the deceased. I believe the word itself occurs in that sense in other languages, and in Swahili *kuzimu* means "among the dead." It may possibly be connected with *wazimu*, or *wazimo*, a word used in the phrase *ana wazimo*, "he is mad." From its form, *wazimu* should signify people or spirits, and in the country parts of the island people say instead of it *ana mahoka*, which is distinctly "he has devils." There may be also a connection between *zinu* and *zimui*, a kind of ogre, which people say they do not now believe in.

The common name for an evil spirit is *pepo*, evidently the same as *pepo*, "wind." It is used sometimes in a good sense, *peponi*, i.e. "among the pepo" is the regular word for Paradise; *maji ya pepo* means "good and sweet water;" and one of the most learned men of Zanzibar translated the word "blessed," as it occurs at the beginning of the Psalms, by *pepo*. But its common use is for the spirits which continually infest every place, and inflict all kinds of ill upon men and women and their possessions. There is a vast body of learning in regard to these spirits, how to employ and how to expel them, which belongs to the *wachawi*, the wizards and practitioners of black magic, and to the *waganga*, the doctors or practitioners of white magic.

The late M. H. Jablonski, who was for many years acting French consul at Zanzibar, and who knew far more than any other European of the customs and ideas of the lower class of the people, told me many things about these spirits. They are said to be divided into families of various degrees of dignity, and the ceremonies used in expelling them vary according to the family of the spirit to be expelled. Some of the forms and words used were, so far as he could discover, unintelligible even to the *waganga* themselves. Most of them included some kind of sacrifice, and if one of a family which had hitherto been satisfied with, say, a fowl were inadvertently propitiated with a goat, none of the rest of the family would after that take less. There are local spirits, as, for instance, in the island of Monfia, the *Mwana mawa* "matron of flowers" (?) who is said to appear as a beautiful white woman, with an ugly dwarfish black husband. There are also purely malicious spirits, as one that is secured by herbs gathered and placed in a mysterious way, and, when secured, requires every day a victim into whom it enters, and, causing a dry burning pain, soon destroys

him. If no victim is pointed out to it, it enters into its master, and destroys him. I was asked more than once what ceremonies ought to be used to expel European demons, which are supposed to have made their appearance on the coast within the last few years. There is a special kind of sacrifices in use, called *kafara*. They are never eaten, but sometimes are put down in the path, when whoever or whatever takes them carries off the disease or ill on account of which they are offered; or on more solemn occasions the victim is buried. There is occasionally a mysterious secret sacrifice of this sort, when a black and a red ox are offered, and it is whispered that this is only a euphemism for a black and a red, or white, person. There is a peculiar light liver colour occasionally occurring among some of the tribes, which is called red.

There is something of a religious character about the traditional observances connected with the *siku a mwaka*, i.e. the day of the year, which answers to the Persian *nairuz*, and occurs now at the end of August. The old Swahili year of 365 days begins with it, and is calculated in decades. On the night before it every one bathes in the sea, and many deck themselves with green branches. In the morning a large mess of rice or grain is cooked and eaten as a public feast. About noon all the fires are carefully and completely extinguished, and lighted again in the evening by rubbing sticks. Formerly no account was taken of any violence done on this day, and even now everyone goes armed and is very careful to avoid his enemies. I suppose these customs must have come down from the times before Mohammed.

Omens are very carefully observed, and every one has strings of instances to show that they come true. A lucky day must be chosen for every new undertaking. It is unlucky to meet first an odd number of person walking together; an even number is lucky. It is unlucky to see crows on the lefthand side of the path. If you stumble in going out you must go back again. No one will take from your hand a knife or a pair of scissors if it can be avoided. You should always enter a house with the left foot forward. A child that cuts its upper teeth first is sure to be unlucky. If you are asked the news, you must say *good*, whether it is so or no. If you are asked how you are, you must say *well*, for the sake of the omen, even when you are dying.

Part of a house we were building fell down, and we were told of many signs that had foreboded it—a goat had been heard to bleat on the roof when no goat was there; a man had been seen to enter the house and no trace of him could be found afterwards; a hand had been seen to issue from our well with light coming from the tip of each finger, and after the fall a small snake was found coiled up in a hollow among the stones, which was taken as in itself abundantly sufficient to account for the accident.

I can offer but very few particulars about the inland tribes. Behind Lamoo and Melinda lie the Gallas and the Pokomos, who are true negroes, but serfs to the Gallas. Behind Mombas lie the Nyikas, who reach to the foot of the Shambala mountains. Behind the

Nyikas lie the Masai, who are the dread of all the other tribes; neither in language nor in features do the Masai belong to the South African negro race. The Shambala occupy a mountainous tract, which reaches to within one or two days' journey to the sea, and lies nearly opposite the island of Pemba. They are a very secluded race, though in times past they have been very powerful. Of late years there have been a series of disputes about succession, which have much divided them. There are among them a number of people of another and handsomer, but less warlike, race, who are said to have come long ago from the north. The Shambala have always been governed by a king, possessed of the most absolute power. Their kings have generally borne the names of Kimweri or Semoja. They keep cattle, and are occasionally, in spite of their mountains and their firearms, harried by the Masai, who fight only with a spear and a shield. Among the Shambala it is forbidden to plant new kinds of fruit trees, or to grow any new kind of corn. The staple food of the country is the fruit of the banana. Through the Shambala country lies the usual route from Zanzibar to the snowy mountain Kilimandjaro. The summit of Kilimandjaro itself is said to be sometimes visible from Kokotoni, at the northern end of the island of Zanzibar.

South of the Shambala mountains live the Zegulas, a very warlike tribe. There was an insurrection years ago in the island of Zanzibar of the Zegula slaves, and it could only be put down by help from Arabia. They are said to be peculiarly barbarous in their customs. Nearly opposite Zanzibar itself lie the *Zaramo*, through whose country passes the great road to the Nyamwezi and to Ujiji, on the Tanganyika Lake. Nearly opposite the island of Monfia begin the Gindos, who stretch on behind Kilwa towards the Makua. Behind the Gindos, between them and the Lake Nyassa, lie the Yaos; their country has lately suffered most severely from the Maviti, who are, I suppose, the same as Livingstone's Mazitu. Only one Yao chief is reported to have been able to hold his own against them. For the time being the road from Kilwa to the lake is closed.

By far the greater part of the slaves brought to Zanzibar, until very lately, belonged to the Yao tribe, or to the Gindos, or to the Nyassas on the other side of the lake. The tribal mark of the Gindos is a row of spots or short perpendicular lines across the forehead. The Nyassa mark is a sort of union jack, generally made on the breast. The Yao mark is two short parallel lines. Two pairs are generally made between the eye and ear; but I have seen men almost entirely covered by marks like our sign of equality. The prevailing colour of all these tribes is a dark chocolate, and the men are generally rather small and slim, and often exceedingly well made. They are entirely without the long heel of the west coast negroes, and have very little indeed of the negro smell.

The only other tribe which I know anything of is the *Nyamwezi*. The Nyamwezi are well known in Zanzibar by their long hair and peculiar features, their dress of skins instead of calico, the white ornament hung round their necks, and their habit of eating animals which die of themselves. It is chiefly, I think, from this last custom

that the name Nyamwezi is looked upon as a reproach. They have the strong negro smell very noticeably. They are, however, in many ways superior to the neighbouring tribes. They send caravans of their own on trading journeys to Zanzibar. The Bisa, who used to come to Kilwa, were the only other interior tribe that ventured down.

I heard amongst the Nyamwezi, and amongst them alone, of athletic sports, such as leaping and running; the boys amuse themselves with swings and walking on stilts. A young man is looked upon as a milksop until he has made at least one journey down to the coast, and their caravans take three months to do it in. When they return home they often take a new name, calling themselves after the Sultan, or some of the great Zanzibar men whose names they have heard in their travels. Their colour is blacker than that of most of the coast tribes, but their features are a shade more European. The nose is not so flat, nor the lips so thick, and there is a peculiar roundness and fulness about the form of face. They always wear their hair long, generally hanging in tight ringlets. When very long it is gathered up on the crown of the head, and a string tied round it, leaving the ends to fall around the head. They wear universally a small triangular piece of ivory, or white shell, suspended round the neck by a plaited black cord, so as to hang just between the collar bones. Many have a great ivory bracelet, which looks like a ball pierced to receive the arm. Their usual dress consists of a large piece of a sort of leather passed round the body under one arm, and open down the other side, except just where it is fastened upon the shoulder, and again about the waist. In their own country bark cloth is frequently made and used.

There is said to have been once a great empire of Unyamwezi, but the nation is now divided into a number of scarcely connected tribes. As their country furnishes a convenient centre for the lake district, it has of late years been several times visited. When Burton and Speke made their first journey the civil war was going on, which has ended for the time in the appointment of a Governor by the Sultan of Zanzibar. There are in the country a great many Arab and Swahili settlers, but I gathered that the natives would be gladly quit of them if they could. I should think that witchcraft held a larger place in the thoughts of the Nyamwezi than perhaps in those of any other people. Part of the road to Ujiji passes over a quaking bog, and I was told by a Nyamwezi that the country thereabouts was so full of wizards, that no one dare step the least out of the way lest he should sink and be smothered *through their enchantments*.

In the Nyamwezi tales the elephant takes the place of the lion as the king of beasts, and, as in all the African tribes I met with, the part of the fox is played by the *sungura* (rabbit or hare). I was told by a Nyamwezi a little tale, which has, I find, a counterpart among the Natal Zulus. It was this,—the rabbit had long been deeply in debt to the elephant and kept out of his way. At last it happened that the elephant came upon him just before he could slip into his hole in a precipitous hill side, and demanded payment. I was just going into the hole there to get it, said the rabbit, but I am afraid of

the hill falling on me, do you lean against it and hold it still while I go and fetch the money. The elephant leant against the hill till his friends came by and jeered at him, and the rabbit went into the hole, but did not come out again. The same tale is told among the Yaos in a similar form.

I heard another tale of a man who went with his bride into a rock which closed upon them, and has never opened since. On the top of the rock there are said to be still the marks of the feet and spear of his uncle, who stood there waiting for his return.

They told me that there is in their country a half human kind of creature, called an *Itandu*, which is fond of playing with the herd-boys, but if they get rough in their play it either goes off at once or becomes dangerous.

The following Nyamwezi proverbs will conclude what I have here to say of them :—

A liar's road is a short one.

A lick of honey has licked more than once.

If you hide hot embers the smoke will betray you.

A coward takes no booty, save clay to make pots.

Gluttony brings to poverty.

There seems to be a rich mine in the old tales current among the Yaos. They have many stories of a creature that devours men and animals, and how, when it is slain, all return to life again. There are tales of creatures which when they are played to cannot but dance, and as they dance come to pieces, and every separate piece dances until after the music stops, when the limbs gradually come together again. Thus the hero of one story escapes by setting his pursuer dancing every time he nearly comes up to him, and so getting each time a fresh start. There is another story of a wizard who destroys all the family except the youngest, whom he carries off in a bag. At last they come to a house where the boy recognises the voices of people known to him, and while the wizard is out they get him out of the bag, and put in snakes and venomous creatures. When the wizard has gone off with his bag he begins to talk to the boy, and, getting no answer, beats the bag, and at last puts his hand in to pull him out, when he is stung to death, and all his enchantments are ended.

There is another story, of three brothers who went trading. The youngest got a piece of cloth which when he hung it in the wind spoke as with a man's voice. The other brothers killed him for the sake of this cloth ; but when they got home it would say nothing but " They killed me, their youngest brother, because they coveted my beautiful cloth ;" and so their crime could not be hid. I heard this again in Zanzibar told as of a bird that flew before them all the way home, and perched on the roof of the house when they arrived, crying, " They have killed their youngest brother, and stolen all he had."

There are also plenty of animal stories, in which the hyena takes the place of the wolf in our tales. There is one of how the lion, as king of the beasts, kept them all shut up for his pleasure, until he was cozened by the rabbit, and made him his steward. The rabbit soon

robbed him of everything, and at last persuaded him to swallow a white stone, which killed him.

The Yaos have a proverb by which they justify their own cowardice,

He who goes in fear goes to laughing.
He who goes boldly goes to weeping.

The Yaos say that they have in their country a kind of monkey as large as a big boy, which will live with people, and help them in every way. It will even take care of a baby, and carry it about safely, even when it is climbing about among the trees; but that if anybody calls it *nyani*, i. e. "ape," it immediately drops whatever it has in its hands, and disappears into the woods for ever.

The Yaos have the same kind of enigma which is common among the Africans, and which seems to an European so pointless and unsatisfactory. The following are some of the more striking specimens:—

I killed my game, and there was no flesh to be seen?—*A* answer. A tortoise.

I went to my friend, and he cooked for me game that had not been gutted?—*A*. White ants in their flying stage, which are fried whole.

Let us eat what our grandfather carries?—*A*. Flour, or white hair, from their similarity.

My master's trap falls quickly?—*A*. Eyelids.

I went to my friend's, and he saluted me before I got there?—

A. A dog; because he barks as soon as he hears anyone coming.

The next is one that occurs in many languages.

I built me a great house, it had no door?—*A*. An egg.

In Swahili I have published a collection of tales with a few proverbs and enigmas. They are necessarily modified somewhat by the Arabic element which exists in both language and people.

It remains for me to say something about the languages of the East Coast. Of these I learnt something of four,—the Swahili, the Shambala, the Yao, and the Nyamwezi.

They are all members of what is called the Bantu family, which prevails throughout South Africa. The substantives are in them all distinguished by their prefixes. There are six classes common to them all. They are in the singular and plural.

SWAHILI.	SHAMBALA.	YAO.	NYAMWEZI.
1. Mtu Watu.	Munt Want.	Mundu Wandu.	Munhu Wanhu.
2. Mti Miti.	Muti Miti.	Mtela Mitela.	Mti Miti.
3. Nyumba.	Nyumba.	Nyumba.	Numba.
4. Kita Vitu.	Kintu Vintu.	Chitu Itu.	Kinhu Finhu.
5. Jicho Macho.	Zisho Mesho.	Liso Meso.	Liso Miso.
6. Uayo Nyayo.	Luayo Nyayo.	Lusajo Sajo.	Lupambala Mhambala.

All except Swahili make diminutives by the use of the prefix *ka*-, for which, in the plural, Yao and Nyamwezi use *tu*-. Nyamwezi stands alone in making a class by the prefix *wu*- (Kafir *bu*-), as in *Wuganga*, "medicine;" plur. *Mawuganga*, "medicines."

Swahili and Shambala express locality by suffixes; *-ni* in Swahili, and *-i* in Shambala,—In the house is *Nyumbani* or *Nyumbai*.

Yao and Nyamwezi express locality by three prefixes,—*mu*- (within); *ha*- (by or near); *ku*- (to, or at distant places).

In Swahili and Shambala, however, any pronoun used with the locative case must have a prefix like those in Yao and Nyamwezi.

Nyumbani mwangu, in my house: *nyumbani kwangu*, to my house.

In Swahili and Shambala nouns which denote living things may have their adjectives and pronouns in the form in which they would agree with the word *mtu*, "man," whatever the form of the substantive itself might be; this does not seem to be the case in Yao or Nyamwezi.

In the verbs which always regularly end in *-a*, all four languages agree in having special forms to give a causative, a reciprocal, a neuter, or *quasi* passive, and, what I call, an applied form, that is, a meaning which must be expressed in English by the use of a preposition, as in "to look for," "to call to," "put into," "take away from." The African languages are all poor in prepositions, and express them in such cases as these by changing the final *-a* of the verb into *-ila* or *-ela*. Into *-ila* if the preceding vowel is *a*, *i*, or *u*,—into *-ela* if the vowel of the preceding syllable is *e* or *o*. A neuter or *quasi* passive sense is given in all four by the termination *-ka*, and a reciprocal meaning by the termination *-ana*. A causative meaning is given in Swahili and Shambala by the terminations *-sha* or *-za*, in Yao by the termination *-sya*, and in Nyamwezi by a *y* inserted before the final *-a*. In Shambala and Yao the causative has also an intensive meaning.

The infinitive of the verb is made in all cases by prefixing *ku-*, the subjunctive in all cases changes the final *-a* into *-e*. The conjugation is carried on chiefly by personal and tense prefixes. The Swahili, and probably the Shambala, admit of no changes of termination in the indicative tenses. The Yao and Nyamwezi both make one of their past tenses (though not with exactly the same meaning) by suffixing *-ga*, and both make another past tense by a change like that from *-a* into *-ile*. In Nyamwezi the changes are few and simple; in Yao they are very varied and puzzling. In all four languages there is a negative conjugation carried on by the help of the syllables *si* and *ha* in Swahili, *shi* or *sha* and *ka* in Shambala, and *ka* only in Yao and Nyamwezi.

There are a certain small number of common words which occur in slightly varied forms in all four, and indeed in almost all other African languages, such as *mtu*, a "man," *nyumba*, a "house," and *moto*, "fire;" but the vocabularies are for the most part very distinct, and the general sound of the languages very different.

In them all the letter *n* is used as a prefix, and produces great changes in the consonants to which it is prefixed. Thus:—

N before *b* becomes *mb* in all four languages; *n* before *ch* becomes in Yao *nj*; *n* before *f* is elided in all except in Yao, which has no *f*; *n* before *j* becomes in Yao *ny*; *n* before *k* becomes *ng* in Yao, and *nh* in Nyamwezi. In Swahili the *n* is dropped, and the *k* gets an explosive sound. *N* before *l* becomes in all *nd*; *n* before *m* is dropped in all; *n* before *p* becomes *mb* in Yao, *mh* in Nyamwezi, and disappears, giving an explosive sound to the *p*, in Swahili; *n* before *s* disappears more or less completely in all; *n* before *t* becomes *nd* in Yao, *nh* in Nyamwezi, and disappears, giving an explosive sound to the *t*,

in Swahili; *n* disappears before *u* in Yao, but remains in the others; *n* before *w* become *mb* in all four languages.

These euphonic changes, which are most frequent in Yao, are at first extremely perplexing.

As to accent and pronunciation it may be said that the Swahili is smoothly uttered, with a decided accent on the penultimate. The Shambala has the accent also on the penultimate, but has a guttural unfinished utterance. The Yao is uttered very smoothly and quickly, with no decided accent. The Nyamwezi is uttered in a drawling nasal way, with a slight raising of the voice on the final syllable. Thus to say in each language that one cannot speak it, is as follows:—

I cannot speak Swahili,	<i>Siwesi kusema Kiswahili.</i>
" " "	Shambala, <i>Shidaha kulonga Kishambala.</i>
" " "	Yao, <i>Ngapakombola kuwelecheta Chiyao.</i>
" " "	Nyamwezi, <i>Kuyombela Kinamwezi ng'o.</i>

The following paper was read :

XVI.—*On the WEAPONS and IMPLEMENTS used by the KAFFIR TRIBES and BUSHMEN of SOUTH AFRICA.* By CARL LUDOLF GRIESBACH, Esq.

(Abstract.)

THE various tribes inhabiting East Africa use weapons and tools made of iron, which they manufacture themselves, showing sometimes considerable skill in smelting and working the metal. Amongst the Kaffir tribes native smiths are numerous, but their knowledge of metallurgic art is very primitive. Two round boulders of greenstone serve for an anvil, on which the red hot iron is beaten with a rude hammer, whilst another Kaffir mends the charcoal fire, which is always made in a small hole in the ground. Two goat skins are carefully sewn up and meet in a hollowed-out bullock-horn, one end of which is turned towards the fire. By alternately pressing the one goat-skin down and pulling the other up, air is forced amongst the coals, and sufficient heat is thus developed for the work. Such primitive workshops are to be found throughout Kaffirland, Natal, and the Zulu country; and also at the Zambezi, where the Kaffirs, though for three centuries in contact with the Portuguese, have never adopted the European method of working metals.

All the assegais of the Kaffirs and the arrowheads of the tribes of the north are made by native smiths, and most of them by smelting the iron direct from the ore. The natives, also, understand wire-making; for this purpose they use small plates of iron into which they bore holes. Some of the northern tribes, the Amaswazi and Amandebeli, know how to mix metals so as to produce a kind of bronze or brass. In certain parts they are also acquainted with tin.

The Bushmen still use weapons of sharpened bone, and but rarely employ arrow-heads of iron; these they never manufacture themselves but obtain from neighbouring tribes. At the sea-coast of Natal, and at the delta of the Zambesi, stone arrow-heads have been found, probably relics of a former race. A singularly-shaped tool is employed by the Bushmen, consisting of a rounded stone perforated for the

passage of a stick, which is used for digging up roots, and may also be employed as a weapon.

The pottery of South Africa is always hand-made, and generally formed of the clay found in the neighbourhood of ant-hills. Other vessels are made of calabashes. Wooden spoons prettily carved, are also in use. A small, but well-cut spoon of ivory, resembling an egg-spoon, is carried in the hair, and used for snuff-taking by the Zulus, while a little ivory instrument like a pin is also carried, and employed chiefly for arranging the woolly hair, and for other toilet purposes.

A constant article of Zulu furniture is a shaped piece of wood, serving for a pillow, often much ornamented and carved; the top is shaped like two half moons, for use of husband and wife.

Corn is always ground between two stones, of which one is hollowed for reception of the grain. Such stones are never used by the Bushmen, who are indeed ignorant of agriculture. Some of the northern tribes, who are more advanced than the Zulus, grind their corn in wooden mortars.

All field-work is performed with a kind of circular pickaxe fastened to a wooden handle by means of a piece driven through a knot in the wood.

The only tool used by the Bushman seems to be the stick with its stone weight at the end. The knob-kerries carried by the Zulus are analogous to these sticks, but are not used in the same way, and, indeed, appear to be ornamental rather than useful.

Musical instruments are very scarce in South Africa, and but seldom found among the Kaffirs, although more commonly used by the northern tribes, thus suggesting that they have probably been derived from the Arabs, who are frequent visitors. The Zulus use an instrument consisting of a bow with one string, to which is fastened a small open calabash, serving for resonance. Where the Kaffirs come into contact with the Arabs drums and tambourines are found; and also an instrument formed of half a calabash over which three or four strings are stretched; this instrument is played like a guitar.

The tribes on the Zambesi also use an instrument allied to the cymbal, with resonant boards made of small calabashes. This instrument is tuned by introducing more or less water into these calabashes. It appears that the Bushmen or Hottentots have never used musical instruments of any kind.

Colonel A. LANE FOX and Dr. THEOPH. HAHN spoke upon this communication, the latter giving some illustrations of the Hottentot languages.

The PRESIDENT announced that this was the last meeting of the Ethnological Society of London, and read the terms of union (see p. xxxvi), whereby an amalgamation had been effected with the Anthropological Society of London, under the title of "The Anthropological Institute of Great Britain and Ireland."

ANTHROPOLOGICAL NOTES

ANOMALOUS TRANSVERSE SUTURE IN HUMAN MALAR BONES.—This suture, which, where it is present, produces an *os zygomaticum accessorium*, has been hitherto regarded as almost exclusively occurring in extra-European races. Von Soemmerring observed it in a Negro skull; another Negro skull in the collection of Van der Hoeven presented it; and Barkow describes two or three cases in Negro skulls. Other examples are in a skull of unknown origin in Sandifort's collection, and in that of a woman, considered to be Chinese, in Vrolik's collection. It has been often seen in the skulls of Dayaks from Borneo, as in one in the Museum at Wurtzburg; in two others described in the "The-saurus Craniorum," pp. 293 and 297. Swaving describes and figures the cranium of a Buginese, which presents it on both sides. The singularity was that it had not been noticed in European crania. At length, Professor A. Garbiglietti met with it in the skull of an ancient Etruscan found at Veii; still it had not been described in any modern European skull. Recently, however, Professor Delorenzi has observed it in a body in the Anatomical Amphitheatre at Turin. (*Caso di rara anomalia dell' Osso Malare*. *Giornale della R. Accad. di Medicina di Torino*, 10 Feb., 1871). And, still more recently, Dr. Giustiniano Nicolucci has met with another Italian instance of this anomaly in a skull just added to his collection from Arpino. The irregularity exists on the left side only, and closely resembles the instance figured by Professor Delorenzi. (*Sopra un nuovo caso di rara anomalia dell' Osso Malare umano*. *Giornale della R. Accad. di Medicina di Torino*, 31 March, 1871). It deserves to be noted that the modern examples of Delorenzi and Nicolucci both have occurred in a region geographically near to that in which Garbiglietti's ancient Etruscan instance was met with.—J. B. DAVIS.

THE HILL RANGES OF SOUTHERN INDIA.—In 1868, Dr. John Shortt published "An Account of the Tribes of the Neilgherries," to which was added Col. Ochterlony's "Geographical and Statistical Memoir of the Neilgherry Mountains." Both these works had been originally written as "Reports" addressed to the Madras Government. Dr. Shortt made one capital addition to this publication in the form of an excellent photograph of a Toda family—a Toda man, woman, and girl. In continuation of this publication upon the Neilgherries and their inhabitants, Dr. Shortt has just issued from the Madras press another brochure entitled, "The Hill Ranges of Southern India, part ii." This, again, is edited by the same industrious hand, and, in accordance with his predilection, contains much anthropological matter. This second part embraces the Shervaroy Hills, the Kolly Mallays, the Chendamungalum Hills, and the Burgoor Hills. The first is by Mr. W. R. Cornish, to which Dr. Shortt has appended "An Account of the Mulliallies, or Hill men of the Shervaroy Hills"; that on the Kolly Mallays by Mr. W. King; the third by Dr. J. Kellie; and the last by the editor himself. Dr. Shortt's account of the Mulliallies commences

with figures of the patterns with which the women tattoo themselves on the brow, temples, cheeks, chins, and forearms, and is tolerably complete. "Some of the men are in the habit of filing their front teeth, but more frequently they are stained with *surmak*, the oxide of antimony, which fills up the interstices between the teeth, and gives the teeth themselves a black stain; others stain their teeth blood-red," which is effected by a tedious process that must be a tax upon the would-be fashionables. In the shorter account of the inhabitants of the Burgoor Hills it is said: "Some of them have fine Caucasian features, small well-formed heads, bright eyes, with an intelligent expression, and are of a light copper colour; whilst others are just the contrary, with large heads, flat features, and dark skinned, so much so that it arrests the attention at once on seeing a couple of these people together." Both the Mulliallies and these inhabitants of the Burgoor Hills are Hindoos and also Lingayets.—J. B. DAVIS.

THE NOVARA EXPEDITION.—The next publication of the Austrian Circumnavigatory Voyage will be another *Anthropological Part*, and will be devoted to *Craniology*. It is in the hands of Professor Seligmann, and will be accompanied by eight or ten plates. It is expected to appear in the course of this year. Among the other misfortunes to science, fairly attributable to what may be called from its chief originator and cultivator, the Napoleonic war spirit, we must lament the non-publication of the volume of portraits of Aborigines collected during this expedition. They would have been of the utmost interest and value in promoting the study of anthropology. The waste experienced in Austrian finances will not now allow its issue.—J. B. DAVIS.

DR. C. SWAVING'S COLLECTION OF SKULLS.—It is believed that Dr. Swaving has relinquished his honourable appointment in Netherlands India, and is now on his voyage back to his native land. He will bring home a considerable collection of skulls from the Malay Archipelago, which will be conjoined to that which he deposited in the great Anatomical Museum of the University of Leyden on his departure for the east. It is much to be desired that on his return his health may be such as to allow him to continue his researches among these craniological treasures.—J. B. DAVIS.

A NOTE ON THE NUMERALS FOR 3, 7, AND OTHERS.—The numerals for 3 and 7 in the languages of Europe, Asia, and Africa, emanating from High Asia, are obtained from roots signifying Middle, Heart, Navel, Half. The numerals 1, 3, 5 and 10 are related; also 9, 4, 6, 8. The primary enumeration was in fours, with scores of 16 (afterwards 20) and 64 (afterwards 80 and 100). The change to decimal numeration took place while there was still one class of language in High Asia, but most likely later than the migrations of the Koriaks, Kamschatkans, Esquimaux. The words were originally finger names in pairs, and most likely male and female. On the introduction of a hand of five, the new numeral on each hand had to be named, and the names were consequently displaced; the new name was applied to

the middle finger. The numeral roots, independent of 3 and 7, are related in groups of inside or male fingers 2, 4, 8, 9, and of outside female or small fingers 1, 5, 6, 10; each pair is also related: 1 and 2, 4 and 5, 6 and 8, 9 and 10. In the distribution of the numerals among the various groups and races the transpositions take place chiefly within the groups; thus, 4 and 9 are transposed, 4 and 8, and also 1, 6 and 10. The system applies to the main groups included in what is called Turanian to Indo-European and Semitic, and embraces Malay and Coptic. 5 and 10 sometimes represent Hand, but not necessarily decimally, but as being the outside fingers of the hand 4 or 5.—HYDE CLARKE.

KIMMERIANS AND ATLANTEANS.*—At Easter, during a fortnight, I chanced to see five numerous collections of men in France and in England, who were sifted from the European population, and sorted in lots, chiefly by their mental peculiarities. They were brought together by their tastes, habits, opinions, and dispositions; by their laws, institutions, and nationalities. Thus seen in rapid succession and in juxtaposition, these sets of men differed materially and conspicuously in body as they differed in mind.

1. *Burnt Sienna and Orange*: "Kimmerians." Well grown, active, long-legged, russet, ruddy, fair, exciteable, energetic men, with clear complexions, bright eyes, and lustrous metallic hair, abounded amongst officers in the French army, and did not abound amongst the rank and file of the army about Versailles.

2. *Raw Sienna and Yellow Ochre*: "Teutons." Big, strong, white, patient, placid, weak-eyed men, with pasty complexions and lint-like or yellow hair of inferior lustre, abounded amongst the German troops to the north of Paris, and there contrasted very strongly with the mass of the French people.

3. *Sæpia and Brown*: "Atlanteans." Little, active, long-bodied, dark-eyed, dusky-skinned, dull-haired, fiery, suspicious, polite, exciteable, drunken, unreasonable, unsteady, pugnacious, thoughtless men, abounded amongst the fighting Communists in Paris, and in a far less proportion in the regular army at Versailles.

4. The first and second types abound in great excess in and about Brighton, Dover, London, and amongst officers and men in the English troops of our army. They are coloured with warmer and brighter tints than French and Germans, in like classes.

5. *Brown and Black*. The third type, even more marked than it was in Paris amongst the Communists—sulky, cross, and uncivil to boot, was in great excess amongst the audience in Hyde Park on Sunday, the 16th April, but even there most of the orators and leaders were of the first and second types. One of them might have been a Viking or a German philosopher.

6. *Black*. One of the Communist orators was an American Negro, with crisp, lustreless hair, who talked fluent nonsense, and begged for

* This note is in the nature of a postscript to Mr. J. F. Campbell's remarks in discussion on Mr. Hector Maclean's paper on the "Kimmerians and Atlanteans" (p. lxi).

coppers in the midst of energetic treason and blasphemy, which the Aryan enthusiasts poured upon the non-Aryan crowd.

Taking the dull black as one end of a scale of prevailing colour, lustrous burnt sienna and transparent white are at the other. The first colour seems to belong to the Aryan type of Vedic age, and intermediate colours may indicate crosses between black and yellow men. The average Briton certainly has more burnt sienna about him than other Europeans; the dark Briton has less than the dark German, because breeds have mixed less in these islands, being kept apart. When disorder collects the disorderly non-Aryans, they show their colour, and contrast strongly and very unpleasantly with the Aryan element in the population of Britain and France. So it seemed to me at Easter time, 1871.—J. F. CAMPBELL.

*Nachtigal's Journey to the Tibbu-Reschâde.**—On the 6th of June, 1869, Dr. Nachtigal left Mursuk in Fezzan, and during a four months' journey penetrated into the heart of Tibesti, the land of the Tibbu-Reschâde. In the language of the Tibbu, the country of Tibesti is termed *Tu* (stone), and this word, combined with the Kanuri plural, ending *-bu*, gives *Tubu*, which is strictly speaking the correct form.

The Tibbu are described by the author as a people of middle stature, well built, with muscular limbs, having usually a deep bronze colour, but varying in different individuals from pale bronze to black. They possess no trace of Negroid physiognomy; and, indeed, the author concludes, that they are much more nearly related to the Berbers than to the Negroes—a conclusion supported not only by the study of their physical and psychical characters, but also by the observation of their social and political institutions.

Unlike the Negroes the Tibbu-Reschâde are a stern and reserved people. They are ruled over by a sultan, who has however only nominal power. Law is based on recognised customs, and can be administered by any noble without the intervention of the ruler. All public questions are discussed by a council of nobles, called *Mainoat*, under the presidency of the sultan.

The best habitations consist of enclosures of neatly-twisted branches of the date-palm, containing several more or less covered spaces, with a winter hut of earth and stone. Some of the dwellings, however, are merely low huts, with a framework of stakes of the talha tree hung with mats of the leaves of the düm palm. Still ruder dwellings are formed of stones piled one upon another, or even of natural caves and hollows in the rocks. Most of these dwellings are separated widely from one another, and indeed Bardai is the only place which can be called a town; the huts being there grouped together in closed areas, and the inhabitants possessing sufficient date-palms to serve the whole year, whilst in most of the other centres of population the inhabitants change their dwellings at different seasons. Thus, when Nachtigal reached Tao, he found the place deserted—the only inhabitants being

* An account of this journey has been published in Petermann's *Mittheilungen*. Nos. i, ii, viii, 1870.

one man and two women, with several slaves ; the rest having migrated to Bardai to obtain food from the date-palms.

The Tibbu-Raschade appear to endure a miserable existence, and at many times to suffer severely from want of food. Although they possess numerous herds of goats they rarely eat flesh, and it is only after the herbage has been refreshed by the autumn rain that the goats yield milk. At this season, the Tibbu also have the seed of the *Panicum colonum*, from which they prepare meal. The date harvest furnishes them with food into mid-winter, but they are often compelled to feed on the husk of the düm fruit. Before the date harvest commences, the poorer natives are permitted to gratuitously eat as many dates as they please—a custom which also prevails in Fezzan.—F. W. R.

Congrès International pour le progrès des Sciences géographiques, etc.
—Last year a Committee was formed at Antwerp for the purpose of organising this Congress ; but, in consequence of the disturbed state of parts of the continent, the meeting, which had been arranged for last August, was postponed. A circular has recently been issued, announcing that the Congress will hold its sittings at Antwerp from the 14th to the 22nd of August next. The assembly will be divided into sections, and a programme has been issued containing a number of questions proposed for discussion in geography, cosmography, navigation, commerce, meteorology, statistics, and ethnography. Under the last-named head the following questions are proposed :

1. What are the results of scientific investigations relative to the origin of man ?
2. Is it possible to establish degrees of superiority and inferiority among the races of man ?
3. What is the present geographical distribution of the human races, and what are the tendencies of certain races to be supplanted by others ?

During, and after the meeting, scientific excursions will be organised and an exhibition will be held for the display of objects illustrating the subjects under discussion—such as maps, atlases, globes, nautical instruments, and casts, photographs, and drawings of anthropological interest. The Committee solicits contributions of specimens for exhibition, to be addressed to the President, M. D'Hane-Steenhuysse, École Moyenne, Rue du Chêne, Antwerp. All specimens should be sent so as to arrive at Antwerp not later than the 15th of July.

Mr. Jackson on Anthropology.—A new anthropological work is announced by Mr. J. W. Jackson, M.A.I. The author proposes to discuss freely a number of topics relating to Man considered physically, morally, intellectually, and psychologically. The work will take the form of a serial, and be issued in four numbers, forming together an octavo volume of about 220 pages.

